THE
Madras Geographical Association
RULES

1. The name of the Association shall be 'The Madras Geographical Association'.

Objects.

2. The objects of the Association shall be:—

(A) To promote geographical knowledge;
(B) To secure for geography its proper pla[...]ce in the High School, the University and its [...]constituent and affiliated colleges;
(C) To help to improve the methods [...] of teaching geography;
(D) To work for a school of geograph[...] being started;
(E) To promote studies about South [...]dia from various standpoints [...]

3. These objects shall be [...]

(A) Holding mee[...] [...]es, and publishing periodic[...] [...]lletins;
(B) Organizing [...]
(C) Helping [...] [...]ions and excursions; lang[...] [...]geography books in the [...]esidency;
(D) Formin[...] [...]geographical literature, and [...] and [...]ts, plans, models, slides
(E) Pro[...] [...] to members, of books
(F) An[...] [...]llections; [...] are deemed necessary to [...] the Association.

4. The membe[...] who are interested [...] [...]on shall be open to all those the teaching of ge[...] [...]eographical knowledge or in

5. There s[...] ordinary [...] of members, honorary and

6. Honor[...] council b[...] [...]ho shall be so elected by the be exempt fr[...] [...] at its meeting. They shall privileges [...] [...]iption, and shall have all the [...] voting.

7. A[...] sal by a [...] [...]inary member upon the proposal the coun[...] [...]nother member and approval by pay an[...] [...] present at its meeting. He shall or in t[...] [...]s *two* payable in one instalment [...]ents at his option.

8. [...] becom[...] [...] of hundred rupees in two years of an[...] [...] they shall be exempt from payment

THE JOURNAL OF

The Madras Geographical Association

The Journal is a Quarterly published every April, July, October and January. It contains mainly original papers read before the Association; but, it will also include articles, notes reviews etc., useful for the teacher of Geography.

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—THE JOURNAL OF—

The Madras Geographical Association.

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Proceedings of the First Conference of the Madras Geographical Association

The First Conference of the Madras Geographical Association was held on the 23rd and 24th May 1930 at the Freeman Buildings Agricultural College, Coimbatore under the Presidency of M.R.Ry., Rao Saheb T. S. Subramania Ayyar Avergal, M.A., L.T., Retired Vice-Principal, Teachers' College, Saidapet. Besides the following members of the Association there was a large gathering of visitors:— Messrs. Rao Saheb T. S. Subramania Ayyar (Madras), N. Subramania Ayyar (Madras), S. K. Devasikamani (Trichy), M. S. Sabhesan (Madras), S. Natarajan (Madras), V. K. Sourirajan (Madras), K. C. Ramakrishnan (Madras), S. Anantanarayanan (Trichy), V. Guruswami Sastri (Tirukkattupalli), C. S. Rangaswami Ayyangar (Villupuram), V. Jayarama Ayyar (Villupuram), T. R. Rajarathnam Pillai (Coimbatore), C. S. Rama Rao (Peelamedu), S. M. Rangaswami (Podanur), K. S. Srinivasa Ayyar (Dharapuram), T. K. Narayana Rao (Udumalpet), K. R. Sundaramurthi (Pollachi), M. Kalyanasundara Pillai (Tiruppur), M. P. Sitaraman (Madras), C. M. Gopal (Madras), K. Jogiah (Madras), C. Viswanadhan (Manamadurai), V. Sundaram (Bodinayakanur), A. L. Sundaram (Karur), S. T. Sreenivasan (Srirangam), C. M. Ramachandra Chettiyar (Coimbatore).

At 7-30 A.M., on the 23rd May 1930 Mr. T. R. Rajaratnam Pillai, B.A., L.T., Deputy Inspector of Schools, Coimbatore, and Chairman of the Reception Committee delivered the Welcome Address. (Printed below.)

M.R.Ry., Rao Saheb T. S. Subramania Ayyar Avergal then delivered his Presidential Address. (Printed beow.) The Secretary

made a statement regarding the work of the Association. (Printed below.) The following papers were then read and discussed on the two days :—

1. Geographical control of Early Kongu History : by Mr. P. T. Srinivasa Iyengar, M.A.

2. The Geographical Limits of Kongunadu at various epochs: by Mr. C. M. Ramachandra Chettiar, B.A., B.L.

3. A Survey of the Recent History of Coimbatore District: by Mr. C. S. Srinivasa Chariar, M.A.

4. Some Place-names of Coimbatore District : (i) by Mr S. Natesan, B.A., (Hons.), L.T. (ii) by Mr. C. M. Ramachandra Chettiar, B.A., B.L.

5. A Note on the Physical Geography and Geology of Coimbatore District : by Mr. T. N. Muthuswami, M.A., L.T.

6. Meteorology of Coimbatore District : by Mr. M. S. Subramaniam, B.A. (Hons.).

7. Agricultural Geography of Coimbatore District (with special reference to garden crops) : by Mr. K. C. Ramakrishnan, M.A.

8. Cattle of Kongunad : by Mr. A. Swaminatha Ayyar, B.A.,

9. Home Industries of Coimbatore District : by Mr. R. Hari Rao, M.A., L.T.

10. Mill industry of Coimbatore District : by Mr. C. V. Venkatramana Ayyangar, B.A., B.L.

11. Population of Coimbatore District : by Mr. S. S. Krishnaswami, B.A., L.T.

12. A Note on the Urban Geography of Coimbatore and its Environs : by Mr. R. Dann.

13. Towns sites and Communications-lines of Coimbatore District : by Mr. N. Subrahmanyam, M.A., L.T.

14. Public Health of Coimbatore District in relation to physical conditions : by Major A. M. V. Hesterlow, I.M.S.

At the close of the Conference Mr. Rajagopalachari, Vice-Principal of the Agricultural College, addressed the Conference expressing his appreciation of the work of the Madras Geographical Association in stimulating an interest in original studies of the Home Region from various points of view. In the course of his speech, he deplored the lack of knowledge in the elements of Geography in students who entered the Agricultural College. They

lacked the synthetical and analytical processes which ought to characterise the activities of students. He told them that in order to have a clear idea of soil conditions and climatology the students should have a good grounding in Geography. In conclusion, he said that the duty lay on teachers of high schools to impart such an education to the students and that the teacher himself should have the requisites of wide experience acquired by travel and observation to enable him to be a good teacher of Geography.

President's Concluding Address.

Rao Saheb T. S. Subramania Ayyar in bringing the proceedings of the Conference to a close paid a tribute to the authors of the various papers contributed for the session, and said that after attending the conference they had now a good idea of the geographical, economic and industrial conditions of the Coimbatore District. He hoped that the Conference would assume a peripatetic character thereafter. In attaching themselves to the S. I. T. U., he said, they would be migrating from one place to another year after year and studying the local geography of each district in all its aspects. Regarding Coimbatore he said the district combined in itself all the features that made for national success. The economic and industrial possibilities of the district were immense.

Proceeding he said that India resembled Italy in physical configuration. Quoting Sgr. Mussolini he said that by building their hope on agriculture industry would follow. Answering Mr. Rajagopalachari he said that the dignity of the subject would be clearly brought up only when the subject was included in the higher course and when special arrangements were made for the better teaching of the subject. Regarding the characteristics of the people of this district, he said, he found more real fraternisation and unity in this district than, for example, in the east coast.

With a vote of thanks proposed by Mr. T. R. Rajarathnam Pillai the conference came to a close.

On the evening of the first day a visit was made to the Workshop and Industrial school at Peelamedu. Small parties visited places of interest in and around the city such as the Rural Reconstruction Centre at Ramanathapuram, the Forest College and Perur Temple. After the conference several members made a flying trip to the Nilgiris.

Address of welcome by Mr. T. R. Rajaratnam, B.A., L.T.,

Deputy Inspector of Schools, Coimbatore and Chairman of the Reception Committee.

Dear President and Members of the Geographical Conference,

I take it to be a rare privilege and honour to have been called upon by the enlighted and experienced body of teachers here to be the Chairman of the Reception Committee and to invite you all to hold the Geographical Conference in this city to-day and to-morrow.

The mere fact that you are at Coimbatore is enough to prove that you are now more elevated than when you left your home in the different parts of this Presidency, for we are all at present about 1,340 ft. above sea level. From here you can observe the mountainous arms of the western hills which are extended to embrace you in the Queen of the hill-stations. If you turn to the north you will be met by the rugged frown of the Kollegal hills relieved by the picturesque beauty of the sacred fall at Sivasamudram and the future Mettur Reservoir. The Bhavani, the Noyyil and the Amaravathi will float you down to the Kauveri and the low-lying hot plains of the south-east. Your vanity may be satisfied by climbing to the top of Anaimudi to find yourself above every other man south of the Himalayas. Ladies and Gentlemen, to-day Pykara is labouring to beget power to electrify Southern India. The Siruvani Tunnel will soon pour its perennial supply of water and quench the thirst and bathe the bodies of the citizens of Coimbatore. The Imperial Sugar-cane Breeding Station is sweetening India with its sugar of improved quality and promises eventually to liberate her from her dependence upon Java and other lands. The Ramanathapuram Branch of the Y.M.C.A. is attempting to vitalise the two thousand villages of this district by its work of reconstruction. The Cotton Mills are trying to emulate Manchester perhaps to the future detriment of India's national economic ideal. The Pollachi and Tirupur Markets help much of

5

our raw-cotton and ground-nuts on their wings to distant Europe to return in altered form. In short, Ladies and Gentlemen, in welcoming you to Coimbatore we welcome you to a place which, with its monsoons and scrub flora and tropical fauna, with its not distant presence of hills and plateaus, with its salubrious climate with its river capture at the head-waters of the Noyyil and Ponnani with its tank and well-irrigation, with its silk industry of Kollegal, with its cotton industry at Peelamedu and other suburbs, with its hamlets of quiet, industrious but litigious riots, with its backward tribes and hill tribes such as, Muduvars, Irulars, Malasars and Todas, and with its sacred Perur of sculptural fame, is a mine of wealth for a Geographer to revel in. I am aware that this is the first Geographical Conference in South India, nay, in the whole of India, and this city with its fine environs and excellent climate as described above, is, I believe, best fitted to study human life in relation to nature which is the special function of Geography.

I confess I have no special qualifications to hold this privileged position and talk to you with anything like authority on the growing subject of Geography. Nor can I indicate to you a distinguished body of educationists the lines on which you will carry on your discussions in reference to that subject. But this much I should like to say, *viz.*, that I have been long a secret votary of this hitherto neglected and down-trodden subject and have been looking eagerly for its uplift from the contemptible position it found itself in the school-room for over two decades. My love for the subject is, therefore, my only excuse for occupying this position.

It is a matter of common knowledge now among the public and particularly of the teachers that the Madras Geographical Association started by a few enthusiasts a few years ago has been progressing by leaps and bounds ; and through its labours geographical knowledge is being disseminated, popular prejudice against the subject has been overcome and the evergrowing importance of the subject is becoming more and more recognised by the public, the University and the Educational Department.

The Madras University has recognised it as one of the optionals of the Intermediate Examination and has taken steps for bringing into existence a Department of Geography. The inclusion of the subject in B.A., curriculum is only a question of time. It has of

course to be remembered that the mere inclusion of the subject in the University curricula is not a great thing by itself; for, its advance depends upon the public recognition of its importance.

Again in schools in the revised S. S. L. C. syllabus it has been given an important place both as a compulsory and as an optional subject. The old amphibious position it occupied as a subject of that notorious B. group which was for long working havoc on the character of the pupils and the tone of school-life is now fortunately at an end.

With the restoration of Geography to an important place in the S. S. L. C. curriculum and with the proper teaching of the same, I am sure that ere long a body of secondary and elementary grade teachers will spring up qualified to teach geography on right lines in the lower classes. As one closely in touch with school-work in the lower grades I know there is dearth of geographical knowledge everywhere in schools; and no geography teaching done in any school is worth the name.

I therefore thank the members of the Madras Geographical Association and in particular the learned and indefatigable Secretary Mr. N. Subramania Iyer, for the uphill work they have already done; but I beg leave to suggest to them that it is time that they take up the question of educating the secondary and elementary teachers by contributing articles in their Magazines on what modern geography is and how best it can be taught in the school-room.

May I remind you that the organisation of District Branches of the Madras Geographical Association, the institution of annual refresher courses at different centres by turns with the recognition of the Educational Department, the provision of a separate Geography-room in every Secondary School with at least the minimum equipment of furniture, maps, charts and meteorological instruments—are some of the essential factors conducive to the efficient and interesting treatment of the subject and that these have therefore a claim on the serious attention of the Geographers?

Before I conclude I should like to bring to your notice that much of the popular distaste for Geography was the result of the Geographers not having settled once for all what Geography really is and by their including in it all odds and ends which are facts of other sciences and therefore non geographical. Too much of topography was at one time in vogue here; and that I call the Ancient

Period of the teaching of Geography, about 30 years ago. Then topography gave place to Physiography for nearly 10 years and this I call the Middle Ages in the teaching of Geography. Because of this association of Geography with all kinds of knowledge known to mankind it was blown out of existence and relegated to realms of darkness for nearly 20 years in the past and this I call the Dark Ages of Geography. Fortunately it has now been re-claimed; but I am afraid that in the renovated Geography there is again a little too much of physiography which, I believe, will be beyond the comprehension of the teachers and pupils especially of the lower classes of the school-room. I presume it was because of this attempt to impart a little too much of this physiography that the now defunct syllabus of the revised S. S. L. C. Scheme was cried against by the teachers who demanded another in its place with less of physiography and more of human life in it. All Geography if it should be popular, should be human. The one attempt of Geographers should be to interpret the genius of human life in any place on the earth's surface in the light of its environment, physical and social.

With these my humble observations I heartily invite you all on behalf of the Reception Committee to hold the Conference under the able guidance of my learned and esteemed Professor Rao Saheb T. S. Subramania Iyer Avergal, M.A., L.T., discuss all matters of importance in relation to the subject and make all who have come here to attend the Conference wiser for having heard you.

The First Conference of the Madras Geographical Association, Coimbatore

Presidential Address

While thanking the organisers of this first Conference of the kind in India for having given me an opportunity to associate myself with their commendable work of focussing thought and investigation upon a subject of such human interest as Geography, I cannot but be profoundly alive to my limitations in enjoying the privilege of directing the proceedings of this talented assembly. In your wonted and unbounded kindness a reference has been made to my official and post-official activities. Throughout my career it has been my privilege to work with colleagues that had to stimulate interest in the subject of Geography not only in the *alumni* of our schools and colleges but also in the members of the public, educational legislatures and academic bodies. And it is a matter for genuine pride and congratulation that our Presidency should have thus far at least inaugurated a movement for placing the Muse of Geography on a worthy pedestal and claiming for her an adequate measure of attention and homage. The progress of this movement is bound to react upon the other parts of India and lead to a desirable co-ordination of effort.

Geography in the past. This improvement in the public attention to the subject may be said to be a new phase in the educational life of the East and the West as well. For it is only during the past quarter of a century that even in the advanced countries of the Globe that this subject has been receiving greater attention than any other subject in the school curriculum. It is a change in the outlook that has brought about a marvellous change in the methods and the personelle also in the western countries. The same conditions are not found here and consequently the same necessities are yet to be felt here. Hence the greater need in the new orientation of our aims and methods to stimulate interest by organised effort, and it may be truly said that the Madras Geographical Association adequately fills a gap in the educational and academic activities of South India and serves to bring about a due co-ordination of effort on the part of the diligent workers in the field.

Till very recently Geography was the Cinderella amongst the subjects of the school curriculum. She was never given an independent and much less an honoured place in the academic family. It was always her lot to lean upon others. For a long time she had to be under the leading strings of History. The tie moreover was considered to be inalienable. Her relations to other subjects and sciences were but very feebly envisaged. Her ardent votaries were very few in number and even those few were not singing her praises adequately. She had always to quail before close-fisted managements, indifferent schooling and hostile alumni. More than other subjects the teaching of geography suffered for want of a qualified and capable fraternity of teachers and specialists. It is a fact well-known to us all that its teaching was always relegated to that amiable member of the staff who was handy enough for any kind of work in the school. Under these circumstances how could any enthusiasm be evoked and much less maintained. This condition was not peculiar to this country alone. Even in the West it was the wail of the educationists that an adequate measure of attention was not paid to it. According to the "Report on Geographical Education at Home and Abroad" published in 1885 "the two great weaknesses in the position of Geography were want of knowledge in the teachers and want of organisation in the curricula and methods," and the subject was never taken seriously by either teachers or taught. Geography was regarded merely as a species of *general knowledge* comprising a large number of unrelated and uninteresting facts about the earth. *Physical and Political* Geography were kept separate and distinct. While the former was in a measure scientifically treated, the latter consisted largely of long and wearisome lists of names which had to be memorised without associations or reason. This method of geography teaching was self-condemned as it afforded neither pleasure nor profit. Hence its growing unpopularity in schools and its utter absence from the higher courses of study. This was merely the *information or the memorising* stage in the genesis of the subject.

During the next transitional stage Geography had to prove its worth, even to maintain its meagre and inconspicuous place in the curriculum. It had to establish itself as a useful branch of knowledge and an effective instrument of mental discipline. This challenge and necessity led to important modifications both in matter and method.

Nature study and the *object lesson* came to be regarded as suitable avenues by which the study of geography could be approached. Due emphasis was laid upon physical factors and their influence upon the history of humanity; the commercial and economic factors came in for increased attention and investigation. Association was brought to the aid of memory and imagination, and an appeal was made to reason by teaching causal relations. These were the beginnings of a scientific outlook on Geography and a proper orientation of study and research in the much neglected field. But the progress in thought was rather tardy owing to the lack of a unifying principle, a principle which could afford a text as to the limit of the scope of the subject and link up its various departments like the mathematical, the physical, the commercial, the political and the historical aspects of the study. This necessary work of co-ordination could be accomplished only when the subject was seriously taken up in the higher courses. And this consummation was possible only with the progress of enlightened enthusiasm on the part of teachers and scholars of repute engaged in geographical inquiry and research. Now it may be said that the position of geography as a definite science has been finally established and recognised. So the present stage in the progressive development has been due to *organisation* and co-ordination of effort on the part of the votaries of the science.

The new school and its methods. The latest conception of this science of sciences is clearly brought out by its connotation as a study of the Earth as *the abode of man*. Thus the human factor is being more and more prominently brought out by the new school and this new conception determines the nature and scope of the matter to be taught and the point of view from which it is to be treated. The function of Geography is to see how far and in what way the various laws of the manifold sciences operate in determining or regulating human activities in general. Thus the new Geography does not focus its attention so much on phenomena of a local character as upon the distribution of similar phenomena over the whole world, and their action and reaction upon human progress and activities. Consequently the method of the new school is to divide the earth's surface for purposes of study into units or regions of definite or similar geographical characteristics. Till recently we could not get over the obsession of mere accidental

political divisions and territorial boundaries alike in the study of Geography and History. The political is not necessarily the Geographical region. Even our country washed on two sides by the sea and cut off from the rest of the continent by the great rampart of the Himalayas has not been always a geographical as well as political unit. Thus the division of the world into regions on a rational basis to bring out clearly the relationship of natural environment to human activity has been the first endeavour of the new school. For is it not really illuminating and most educative to deal with Asia under the heads :—

1. The Great Plain of the North,
2. The Central Highlands,
3. The Western Highlands,
4. The South-Western Desert extending really from the Atlantic to the Aravallis,
5. The Monsoon lands,
6. The Island Fringe and the remnants of a lost continent ?

Moreover who can deny the inspirational character of a study of human nature as influenced by environment and the realisation of the ultimate causes of the vicissitudes of national life and glory. In this connection I may cite a very remarkable study of the kind by Count Kaiserling in his book entitled *Europe* wherein all the nations of the continent and their evolution have been subjected to a most critical enquiry. Or, let us take this estimate of ourselves and our country by a foreign writer for illustrative purposes. " The outstanding facts with regard to India are its arrangement of physical regions into a pattern which has not favoured unity among its people ; its avenues of approach by land and sea ; the Khyber pass in the North-West and the forested path into China in the North-East, its invasion by different races ; the political, religious and economic diversity of its peoples ; the extreme fertility of its wide areas of good soils ; the influence of its summer rain and of its constant high temperatures ; a land that juts into the sea but is not of the sea ; a people who are land-minded and not sea-faring ; a land crowded to the very margin of existence by a farming people, illiterate, weakened by their mosquito climate until their physical energy is scarcely three-fourths that of the European or American ; dominated politically by a small island kingdom of the temperate zone ; with remnants of an ancient civilisation and culture in some

lines unsurpassed, with leaders arising whose intellectual and spiritual leadership cannot be questioned; an ancient people difficult for the Western mind fully to understand, whose qualities of mind and soul we cannot but admire." With these prefactory remarks our foreign teacher of Geography makes the following a basis for problem study. "India is the second most populous country in the world. Its territory is large and rich. Why is it not independent?" Such thought-provoking problems are taken up for discussion by the students themselves. In the particular problem above referred to the discussion will proceed on the following lines. What does a country need to be independent? It needs to have good boundaries and neighbours. It needs to have all its people united and working together. It needs good farming lands and a good climate. It ought to have good schools so that all its people can be educated. It ought to have good leaders. It ought to have good sanitation so that the people will be healthy. It ought to have an army, a good navy and a merchant marine. Thus the teaching takes a practical turn and makes more appeal to reason and research than to memory. The true worth of the science is now being increasingly realised in all countries.

Reason for the Importance of the Subject Abroad

In the curricula of the Western countries the subject has been given an exalted place owi[illegible] to its practical, educational and national values. Their prosperit[illegible] is bound up with the prosperity of the world, especially because the overflow population of Europe has to find its sustenance in the other regions of the earth. Thus a knowledge of the world and its resources has become indispensable for every young man. Now to solve the problem of unemployment England has to send almost weekly batches of young men soon after their compulsory education up to the 14th year to Canada and South Africa for employment in the farms and factories therein. And properly enough, several organisations have been formed in the West to encourage this migration; and even steamship companies had undertaken to tranship them almost free to the respective countries. So it is no wonder that in the educational system of these countries a due place should have been assigned to the science of earth-lore and fact-lore.

Growth of Geographical Knowledge and Literature.

A marked feature of modern times is improvement in locomotion and the mobility of humanity. With this increase of locomotion comes an increase of knowledge of men and things and a clarification of ideas about other places and countries. All this is evidenced in the numerous magazines and illustrated journals broadcasted under modern conditions for the delectation of the people. Appeals through the eye have become the order of the day. Now we cannot but admit that the Geographic spirit permeates every study related to man and earth. You have only to glance through foreign magazines to be impressed with the variety and profundity of the subjects dealt with therein in the most attractive manner. To cite only a few examples: distribution of inventiveness; road-making in the Tropics; France and her emigration problems; White capital and coloured labour; Cultural regions of India; Civilisation and disease; Irrigation systems of Persia, Egypt and India. The educational survey of the League of Nations has brought out the necessity for visual instruction in regard to national and international problems and that in the interests of the harmony of the world.

Geographical Associations and Organisations.

Improvements in outlook and method are bound to be slow and lacking in initiative unless taken up by organisations, and groups of specialists and sympathisers. Such organisations have been functioning properly in many countries like the Geographical Societies of England and America and ensuring the success of investigations in this vast field of research. Higher research work is not possible of achievement without a good financial backing. And such backing can come only from State organisations, Universities and specialised voluntary associations. It was only a few months ago, that I had the privilege of coming into contact with Mr. Hoadby, the leader of the Boy Scouts and Rovers of Australia, who had taken part in more than one Polar expeditions to the South Pole. In an informing address on board the *Baradine* he discoursed on the expeditions and described very graphically hi experiences and those of his comrades and wound up his address with a deep expression of gratefulness to the Geographical Societies

of Australia and the West that had done everything needful to ensure the success of the expeditions.

The Madras Geographical Association.

Work of this kind in India should naturally rest with our indigenous organisations. Itineration and mobility are absolutely necessary for direct knowledge of men and things. And to stimulate this, public organisations have been brought about in England, Germany and America. The floating University of America is the latest phase of this modern craving. In Germany, rovering has been taken up as a function of local bodies. In England there are many associations and benefit organisations for encouraging outing, excursions and trips on the part 'of students. It cannot be said that our record in India has been a blank. In the Geographical Association under whose auspices we have met to-day we have a worthy rallying point for our further endeavours. I shall reserve for the secretary a detailed narration of the history and achievements of this organisation during the last five years. The potency of this organisation depends in a large measure upon the enthusiasm and co-operation of its members. The Secretary has done well to summon the conference under the protecting wings of the S. I. T. U. The aims of both the organisations are of a parallel nature. The peripatetic character of the Conference also will bring about a focussing of attention on the peculiarities and national setting of particular localities and districts, and contribute in a large measure to the growing literature of the Association.

The work before us.—But only the ground has been slightly broken. The work before the Association is of a stupendous character. Moreover one association of the kind for the whole country is but a dubious record. I look forward to a time when this country can boast of a federation of such organisations, scattered throughout the continent and ministering to the intellectual and moral uplift of its ardent humanity.

With these benedictory words I have great pleasure in declaring this unique conference open for the first time in its history.

Statement by the Secretary.

Mr. President and Gentlemen, I have been called upon to give an account of the work of the Association during the last four years of its existence. I shall try to do so by making a bare statement of outstanding facts without going into unnecessary details.

Five years ago, Geography had no place in the University or in the High School, and the teaching of the subject up to the fourth form was left in the hands of some odd teacher in the school to make up the full quota of work for him, while the boys themselves learnt to pay no heed to a subject which had no examination status. The ignorance of what the science stood for was colossal, while it came in for a good deal of ridicule and contempt.

It was under such conditions that the Madras Geographica Association was ushered in early in the year 1926. It started not only with the aim of advancing the position of Geography in the educational systems, scholastic and collegiate, but also with the higher object of making original studies of South India from various points of view. Both the objects have been carried out in a good measure.

By means of lectures, leaflets, and interviews, important changes have been brought about, so that Geography is now one of the important subjects of the re-organised S. S. L. C. Course, as well as of the remodelled Intermediate Course. The University of Madras has decided to open a Department of Geography and to run a Diploma Course; while the question of the provision of Geography as a Degree subject has already been taken up. Not the least important of the changes is the change of outlook that has been brought about. No longer is Geography looked upon with contempt and ridicule, but it is recognised as an important subject in the map of knowledge, having its own function to discharge.

On the pedagogical side, besides offering notes and articles in the Journal on the teaching of Geography, the Association ran with success two Summer Schools to which teachers were deputed from all parts of the Presidency as well as from the Native states, while

the Educational Department showed its recognition of the work done in this direction by making grants, besides rendering other kinds of help.

On the side of inquiry and investigation too, the Association has been having a good record. A series of original papers by specialists on different aspects of South India have been read and discussed, which have served to quicken and stimulate interest in the higher and detailed study of the Home Region.

The present Conference, the first of its kind in India, is itself a natural outcome of the activity of the Association in this particular direction. For, the work of the Conference is to read and discuss a series of studies of the Coimbatore District from various points of view. It is hoped that this will become an annual function of the Association so that while at the Head-quarters papers concerning different localities may be read from time to time, at the Annual Conference studies of the particular region where it is held will form the main programme of work.

During all these five years the strength of the Association has been steadily maintained at over 200, while the quality of membership has been steadily improving, non-descript members and people who joined out of mere curiosity yielding place to members with genuine interest in Geography and in the higher study of the Home Area.

While the proportion of city and mofussil members has been nearly equal, the latter, unless they subscribed for the Journal also, got no adequate benefit from their membership. To avoid this drawback and to enable the mofussil members to contribute their share of effort for increasing the activities of the Association, a scheme of local and district branches has been inaugurated ; and already three localities Trichy, Villupuram and Coimbatore have started their branches. The opening of a larger number of such branches will give scope for further development of Geographical studies in South India on right lines.

The Journal has been meeting a felt need and has been appreciated. Besides recording the proceedings and activities of the Association and serving as a clearing house of Geographic thought, it has also served as a link between the Head-quarters and the mofussil members. The steady increase recently in the number of

subscribers, both among members and institutions, has been gratifying. But it has been a costly affair to run the Magazine owing to the large expense of the maps and illustrations that have to be included; and unless there is a further increase in the num5er of subscribers it will not be possible to improve the quality or to increase the size of the Journal.

Financially, the Association has so far been able just to make both ends meet, and it has yet to build up a reserve fund. But it is strongly believed that it has created a place for itself in South India by filling a gap; and the question of finance is easily solved when people begin to feel that it is an institution which is serving a useful purpose, and that it ought to be supported. Some of us are sanguine enough to trust that the Association has reached such a stage.

This conference is a fresh venture in the history of the Association, and its success is foreshadowed in the immense interest that has been generally evinced.

Geographical Control of Early Kongu History

By Mr. P. T. Srinivasa Iyengar M.A.

Kongu nadu is now generally used as the name of the Salem and Coimbatore districts and Konkan (in Tamil Konganam) for the part of Maharashtra between the Ghats and the sea. This was not always so; for according to tradition Konkana was seven-fold and the Saptha Konkana comprised the whole of the strip of coast from Jalalpur near the northernmost point of the Western Ghats down to Cape Comorin. Ancient legend has it that Parasurama recovered this land from the envious grip of the sea and this story enshrines a dim recollection of a pre-historic elevation of the coast which compelled the Arabian Sea to retreat a few miles from the hills whose feet it laved in ancient times. Below Lat. 15° N. and 13½° N. *i.e* roughly from Govapura (Goa) and holy Sringeri the Ghats dip down making the Konkan there extend into the interior and coalesce with the Maisur pleateau; this has been the cause why South Maisur came to be called Konganadesa, a fact of which the best testimony is the title of Kongani assumed by the princes whom we now call the Western Gangas of Gangavadi from the fourth to the tenth centuries A. D. Their capital was Talakkad, on the banks of the Kaveri and they called themselves Lords of Kuvalala *i.e.* Kolar, to which both the Eastern Gangas of Kalinga and the Western Gangas of Gangavadi referred as their original home.

Lower down, between Coimbatore and the Anamalais, there is the broad Palghat Gap cut across the Ghats by a river of a former geological epoch, which links up the Konkan coast with the upper reaches of the Kaveri. This region merges imperceptibly into the South Maisur region through the lowlands on either side of the Shevaroys Gap, so that South Maisur, Coimbatore and Salem form one natural plateau region, studded with uneroded remnants of the Eastern Ghats, like the Nilgiris and the Melagiris. The whole of this natural region was also called Kongu Nadu, as is proved by the fact that the book which narrates the legendary history of the early kings of this country is called *Kongu Desa Rajakkal.*

This was the Konganam of early Tamil Literature, whereas the word Kongu Nadu was more often used in a more restricted

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sense, *viz.* being applied to the region between the south of the Maisur plateau and the region less than 500 feet above sea-level which forms Tinnevelly, Ramnad, Lower Madura, Pudukottah, Trichinopoly, Tanjore and South Arcot. In the technical language of early Tamil grammar, the latter districts comprise *Marudam* and *Neydal* land, and Kongu Nadu mostly *Mullai* with an admixture of *Kurinji* where the Niligiris, the Melagiris, the Anamalais, the Palnis, and the Shevaroys rise aloft to the skies.

The *Mullai* is the region where cattle and sheep are raised, where milk and milk products are adundant, and wool and cotton weaving developed in the New Stone Age and where millets or dry crops are raised. This is so to-day as it was in the remote past. On account of its propinquity to the Kurinji love before marriage is also characteristic of it. For the same reason, this region serves as the entrepot of the gold and the different kinds of precious stones, loosely called beryls, between the hills and the riverine plains. Hence the first historical information we learn about the Kongu Nadu is that it supplied the above articles to the plains and to the sea-coast, whence they were exported to distant countries to the west, right up to Rome.

The inhabitants of such a region lived a comparatively simple life; the institution of Kingship arose among these pastoral tribes, as is proved by the fact that in the earliest layer of the Tami language the word *Kon* means both a herdsman and a king, that the emblem of royalty was the sceptre evolved from the herdsman's wand and that kings and gods were called herdsmen of the people. But these were pretty, local chiefs, unlike the kings of the more civilised Sera, Sola, and Pandya monarchs who had extensive districts to rule over. The geographical conditions of Kongu Nadu were responsible for the simple 'polity' that prevailed in the country.

Civilization in its literal sense of the rise of towns and in its extended sense of rise in the standard of life, spread of manufactures and commerce, marriage before love and rise of prostitution (Parattamai) arose in the New Stone Age, much more than ten thousand years ago in the plains where rivers could be harnessed to the service of the ploughman, and crops could be raised more than is necessary for consumption and be stored as wealth. With this begins history, for the possession of wealth attracts bards, whose

ballads have been the first source of history all the world over; and wealth means wars which are the new material of recorded history.

The Geographical conditions of Kongu Nadu, its sharp separation from the low-lying *marudam* and *neydal* tracts, imposed an isolation which caused its culture to run an even course from the earliest days of unrecorded history. The old regional gods—Seyon (the red god of the hilly region) and Mayon (the black god of the pastoral tracts) continued to be worshipped with the offerings of flesh and honey and spirits accompanied by choral singing and dancing. These customs may yet be seen in their primitive purity in the Kongu Nadu, without the intrusion of Aryan Mythology, in the tracts far from towns which have risen since the Kongu Nadu developed intimate intercourse with the rest of the country. The geographical conditions have again been the cause why this region did not enjoy the benefit of having a history of its own, as the other regions of South India had.

Till about the VIth century A. D. the chiefs of various places in the Kongu Nadu were more or less subject to the Sera Kings on one side or the Ganga Kings on the other. It was natural that the Ganga Kings should be the liege lords of these chiefs; for Gangavadi and the Kongu Nadu were adjacent to each other and formed one natural region. The reason why Sera Kings were able to exercise control over the Kongu Chiefs was that their vast foreign trade had made them wealthy and their sway overflowed through the Palghat gap till it reached the town of Karur, which was their inland capital as Ptolemy tells us. A few miles to the east of Karur is the place called Kattalai, which was the common vertex of the Chola, the Pandya and the Sera dominions, the two former being separated by an artificial mound marking the boundary, and the first and the last by a rivulet still called Karaipottanaru. The maritime capital of the Seras was Kodunnatur (Cranganore) and the centres of the Sera power being on both sides of the Kongu Nadu the Sera Kings could hold it in fee all the more easily, as Ganga power was shattered in the fifth and sixth centuries by the Kadambas on the one hand and the Chalukyas on the other.

When the Pandiyas arose about 580 A.D., after an eclipse of a century, the vigour of youth and the example of Pallava kings of Kanchi spurred the kings of Madura on the path of conquest. So, for about 400 years onwards we hear of innumerable battles

between the Pandyas and the Adigamans or Adigans and the other petty chiefs of Kongu Nadu. By that time the Seras had been squeezed out of the country east of the Palghat gap into what we call Malabar. So we find the power of the Kongu chiefs, when they got respite from the Pandiyas (the sway of the latter see-sawing according as a great hero or a weakling ruled at Madura) extending in a thin line between the Northern Vellar and the Southern Pennar valleys down to the sea with Thiruvadigai in the Cuddalore District as one capital (whence the name Adigaman) and Tagadur (now Dharmapuri) in the Salem District as another.

The Kongu Nadu was practically separated from the rest of the Tamil country till about the seventh century A. D. ; and it did not share in the great religious revolution which took place in the sixth century and led to the construction of numerous temples in the Chola Nadu and less numerous ones in the Pandya and the Sera countries. The old red and black gods (*seyon* and *mayon*) were worshipped in the old ways. Temples to the Agama gods, Siva and Vishnu did not rise. This explains why the Vaishnava hymnists called Alwars and the first and the second Saiva hymnists—Appar and Gnanasambandar—did not visit the Kongu country. The last of them Sundaramurti, on his way to the West coast had to pass the Kongu country ; and his hymns on Kongu temples are almost a matter of accident ; for, temples arose in that country, almost sporadically after the Pandiyan conquest of it. Hence Kongu Nadu possesses so few temples honoured by being mentioned in Tamil Scriptures. The intimate connection of the Kongu Nadu with the Pandi Nadu in the eighth century led to its participating in the development of Tamil literature and the production of the one great classical poem which had shed glory on it, *viz.*, the adaptation in Tamil of the Prakrit *Brhadkatha* or perhaps an early Sanskrit translation of it into the *Peruggadai.*

In the ninth century Kongu became one of the five *Mandalams* of the great Chola empire and when this empire was followed by the greater empire of Vizianagara, it was absorbed in it. From this time Kongu Nadu began to share in the great South Indian Civilization which resulted from the amalgamation of the old Tamil realistic spirit and the Sanskrit idealistic spirit. Brahmanas settled in it, temples rose and the stream of modern Hindu religious and secular life fertilized the mind of its people.

From the sixteenth to the eighteenth century Maisur became an independent province which had to fight for its separate existence against several foes from the north, the east and the south. Then, and especially during the military glories of Muhammadan rule in Maisur, the fact of the Kongu Nadu being naturally full of strategical positions was fully realised and strong forts on steep rock were built; these played a great part in the wars of the seventeenth century. But this belongs to the sphere of Modern History with which it is not proposed to deal in this paper, for modern civilisation is constantly tending to mask the complete control of history by geographical conditions and man has learnt to control nature by submitting to her laws and has withal abolished distance and made the whole world one.

The Geographical Limits of Kongu Nadu at Various Epochs.

By Mr. C. M. Ramachandra Chettiar, B.A., B.L.

I. Kongu Nadu, a separate territorial unit from the earliest times :—The territory called Kongu Nadu had been treated as a separate unit from the earliest times. There is evidence for that statement in the earliest Sangam poetry. The following pieces deal with 'Kongu' as a separate unit while they mention its inhabitants as "Kongar"

கொங்கர் குடகட லோட்டிய ஞான்றை ... 160 புறநானூறு
கொங்கு புறம்பெற்ற கொற்ற வேந்தே ... 373 புறம்

During the days of Silappadikaram, Kongu is dealt with as a separate Mandalam along with other Mandalams, *viz.*, Pandi, Chola, Chera; and its king has been called *Ilam-Kosar* (இளங்கோசர்). This king is said to have followed the kings of other Mandalams in establishing a temple for Kannagi and in arranging for a festival in her memory. The name Kosar is also found mentioned in 169 and 396 of Purananuru. In various other poems, for instance பதிற்றுப் பத்து etc., Kongu is mentioned and unless a separate territorial unit was recognised even during those ancient days, it would be improbable that it would be so dealt with.

This does not follow that the territory ought to have been throughout a separate independant Kingdom. Even the territories like those of Chola and Pandya had varied limits and varied stages of independence. Sometimes they ceased to be independent States and merged in others as far as political administration was concerned. But yet the geographical limits and nomenclature did not change. Similarly, even in Kongu, the territory was overrun by several neighbouring States and became part and parcel of whichever kingdom conquered it; yet its geographical limits, nomenclature, sub-divisions and the nature of the inhabitants did not change.

Though the territory seems to have been ruled by the kings known as Kosar during the days of Silappadikaram, later on it seems to have been ruled by a dynasty known as 'Retti' who had their capital at a place called Skandapura. This place is not yet indentified though some see in it the town of Karur.

Later on the territory was overrun by the Ganga dynasty who ruled the territory along with their own called Gangavadi from their capital at Talakkad on the river Kauveri near Kollegal. The book named 'Kongu Desa Rajakkal' names this dynasty as Kings of Kongu. It ruled for a considerable length of time till the country was overrun by the Cholas. At this period, the Kongu territory was joined with the Kanarese kingdom of Gangavadi; and though politically it had no separate existence, geographically and ethnographically it was a separate unit.

During the Chola ascendency, the territory lost its independence but yet it preserved its separate existence and it had been ruled by separate semi-independent Viceroys who have been given the name "Kongu Cholas" by historians. Sekkilar, the author of Periapuranam, who wrote at this period deals with Kongu as a separate territory. Saiva Acharyas who preceded him by a few centuries had also mentioned Kongu as a separate territory when they said:

" கொங்கில் குறும்பில் குரக்குத்தளியாய்"—ஊர்த்தொகை—சுந்தரர்.
" கொங்கே புகினும் கூறைகொண்டா றலைப்பாரில்லை"—சுந்தரர்—
அவிநாசித்தேவாரம்
" மீ கொங்கில் காஞ்சிவாய் பேரூர்ப்பெம்மானை"—சுந்தரர்—கோயில்
திருப்பதிகம்.

Sekkilar whose authenticity in historical facts is recognised by modern scholars clearly declares Kongu as a separate Nadu. See

S. 85, 86 88 & 92 in ஏயர் கோன்கலிக்காமர் புராணம்,
49, 140, 141, 164 & 172 in சேரமான் பெருமான் புராணம்,
3, 13, 14 & 19 in வெள்ளானைச் சருக்கம் and
323, 324, 327, 335, 336, 337, 338 & 339 in திருஞான சம்பந்தர் புராணம்.

A study of the above quoted stanzas will clearly show that the territory was regarded as a separate unit by the famous minister and poet "Sekkilar".

During the later periods the territory fell in the hands of Hoysalas, Pandyas, Vijayanagar and Mysore. During all these periods of dominancy by the other states, it did not lose its identity though separate names had been awarded to it for political reasons.

The Kongu Vellalas, Kongu Pallars, Kongu Parayas, Kongu Vannans, and Navithans still stand aloof, as racial questions arise in inter-caste disputes, where customs stand prominent, as

against Pandi, Solia and Tondai Mandala castes who have emigrated in its territory. These few points stand as a strong proof to support the above said statement.

Reasons against the Statement: But the learned Pandit Raghava Iyengar had enunciated a proposition quoting a number of authorities that Kongu merely formed a part of Chera Kingdom and even went so far as to fix the Chera capital at Karur in the easternmost part of Kongu Nadu. He supports his theory by the negative evidence of the absence of the name Kongu in மூவேந்தர், மூநாடு etc., and by a few stanzas from Arunagiri Nadhar and the authors of Sthala Puranams in Kongu country. Negative evidence will never prove a point to the hilt. There may be any number of reasons for the omissions. But we will take the positive proofs given by the Pandit. The earliest poem is by Arunagiri Nadhar. And he says, "சேரர் கொங்கு வைகாவூர் நாடதனில்" when he refers to Palani. We know that the Poet lived only 450 years ago. He is followed by the author of Perur Puranam who says, "கோதை தனியாண்ட தொரு கொங்குவள நாடு". This Poet Kachiappar lived about 150 years ago. He is followed by the authors of Avinashi Karur, Bhavani, Tiruchengodu, Tudisai etc. Puranams. All these poets are quite recent ones who have followed Arunagiri Nadhar in their theories that Kongu formed part of, or rather was ruled by, Chera. Perhaps they were led by a tradition that Kongan was a younger brother of Chera who got his share separated from his brother's as we do in joint family partitions. But there is no proof anywhere in early poetry to support this tradition. Even if it had been true during the historical period, there is no evidence to show that Kongu ever formed part of Chera. The civilisation, customs and manners of the people who inhabit Kongu are quite different from those prevalent in Chera or Kerala portion. As a result, we have to conclude that Kongu never formed part of Chera within the known periods in history.

II. **Limits of Kongu Nadu**: To fix the limits of Kongu Nadu, we have four sources of information—

(i) The Venba usually attributed to Kambar along with others dealing with other Nadus. There are 3 versions of the same stanza:—

தனிப்பாடல்

வடக்குத் தலைமலையாம் வைகாவூர் தெற்கு.
குடக்கு வெள்ளிப் பொருப்புக் குன்று—கிழக்கு

குழித்தண் டலை சூழும் காவிரிசூழ் நாடா
குழித்தண்டலையளவும் கொங்கு

—தனிப்பாடல்.

வடக்குப் பெரும்பாலை வைகாவூர் தெற்கு
குடக்குப் பொருப்பு வெள்ளிக் குன்று—கிடக்கும்
களித்தண்டலை மேவு காவிரிசூழ் நாட்டுக்
குளித்தண்டலை யளவு கொங்கு.

(கொங்குமண்டல சதகப் பதிப்பு)

வடக்குப் பெரும்பாலை வையாறு தெற்கு
குடக்குப் பொருப்பு வெள்ளிக் குன்றம்—தடக்கீழ்க்
கழித்தண்டலை யளவு காவிரி சூழ் நாடா
குழித்தண்டலை யளவு கொங்கு.

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According to these stanzas the northern boundary is given as Talamalai and Perumpalai respectively. The western boundary is Vellimalai in all, the eastern Kulithalai, and the southern Vaigavur. The Kongu Mandala Satakam supports the latter version in

மதிற்கரை கீட்டிசை தெற்கும் பழனி மதி குடக்குக்
கதித்துள வெள்ளை மலைபெரும் பாலை கவின் வடக்கு
விதித்துள நான்கெல்லை சூழ வளமுற்று மேவிவிண்ணோர்
மதித்திட வாழ்வு தழைத்திடு நீள்கொங்கு மண்டலமே.

—கொங்கு மண்டல சதகம்

From the map it will be seen that Talamalai and Perumbalai are almost on the same latitude, one in Coimbatore district and the other in Salem district; and so it matters little which boundary is taken to be correct. Both are on the ranges of hills. The western boundary is the Western Ghats of which Vellimalai forms part. The southern boundary is Vaigavur, which is Palani and Kodaikanal range of Varaha Malai forms the southern limit. The eastern limit is Kulithalai; and beyond it comes Chola Nadu. So the limits are clear and they will limit Kongu Nadu to the upland region surrounded by ranges of hills on all sides except the south-east where it is separated from Chola Nadu at Kulithalai. In the north we find Talamalai and Thoppur hills. In the west we find the long Western Ghats, in the south Anamalais and Kodaikanal ranges and in the east Shervaroys, Kalrayans, Pachamalai and Kolli Malais. Only the south-east portion is open ground where the Kauveri which divides Kongu into two portions emerges into Chola

Nadu at Kulithalai. The physical map of the region shows that it is the middle basin of the river Kauveri which receives tributaries here on both sides from the surrounding hills mentioned above. The territory is generally 1000 ft. above sea level on all sides which gradually slope towards the river Kauveri where it is only 500 feet., and the level gradually goes down south-eastwards as it reaches Kulithalai.

(ii) These territorial limits are supported by Sekkilar when he says Sundara Murti reached Kodumudi in Kongu after visiting Engoi-Malai in Chola Nadu and that again he crossed the boundary on his return journey after visiting Venjamankudal (85 and 92 of ஏயர் கோன் புராணம்). Again the western boundary is clearly stated in stanza 141 of சேரமான் and 14 in வெள்ளானைச்சருக்கம் of பெரிய புராணம்.

(iii) Mr. Muthuswami Konar has published நாட்டுத்தொகை in his கொங்கு மண்டலசதகம். It gives the 24 divisions of Kongu Nadu with the names of the towns contained in them. If we locate the various Nadus on a map, it will be clearly seen the limits contained in the so-called Kambar's Venba are correctly followed. The Kongu Nadu can be easily depicted as a pentagon with the above-named Hills forming sides of the pentagon. It will be seen that Kongu includes, according to that description, the whole of the Coimbatore district except Kollegal, the taluks of Palni and Dindigul in Madura district, Karur and the western half of Kulithalai in Trichinopoly district and the taluks of Omalur, Tiruchengodu, Namakkal and Salem in Salem district.

(iv) A study of epigraphical records gives an idea as regards the extent of this Nadu. Though the names of the sub-divisions differ here, the general limits are the same. The Taluk of Kollegal might be said to have been included in the Nadu, as for a long period in history Talaikad was the capital of Kongu Nadu and an inscription 213/20 mentions it as such. The divisions as culled out from the epigraphical records date back to Chola period to which most of them belong. Two maps showing the limits are appended herewith.

III. **Extent and Division** :—Now, we shall deal with the extent of the country during the various epochs in history :—

(i) *Sangam Age.*— (Beginning of the Christian Era): Purananuru and Pathitrupathi merely mention the country Kongu

Nadu by name and its people as "கொங்கர்". As Kollimalai is mentioned in it, the territory would have gone up to it in its eastern limit. As அதியமான் of தகடூர் (modern Dharmapuri) is also mentioned, the territory would have included தகடூர் also. The country was mostly a forest; and petty but strong chieftains ruled over it in different parts of the country. They were generally known as Velir.

(ii) *Ganga period*, 100-700 *A.D.—"Kongu Desa Rajakkai"* merely gives the name of the Kongu capital as "ஸ்கந்த புரம்" and later on as "தலைக்காடு". At this period, Kongu was under the same king as that of Gangavadi, so the northern limit would have gone up into the Mysore territory, no dividing line having been fixed between the two.

(iii) *Times of Sundara*—850 *A.D.*-From Sekkilar we can infer the eastern limit as Kulithalai and the western as the Palghat gap. The seven great Siva temples and three Vaippu *stalams* were visited by the Saints, and they give an idea as regards the extent of the territory. These are marked in the map. We also find that a division called "West Kongu" existed at this period. It included the present Coimbatore Taluk. Not only சேக்கிழார் and சுந்தரர் mention it, but also the author of the copper grant of Jatilavarman

"மீ கொங்கில் காஞ்சிவாய்ப் பேரூர்ப் பெம்மானை"—சுந்தரர் (கோயில் பதிகம்)

"மீ கொங்கில் காஞ்சிவாய்ப் பேரூர் குருகினர்—சேக்கிழார்—(88-கயர் கோன்)

"மீ கொங்கில் அணிவாய்ப் பேரூர்புக்கு".—சாசனம்.

I have dealt with this period in detail in a book called "*Sundarar and Kongu Nadu*"

(iv) *Age of Sekkilar*, 1100 A.D. :—This has been dealt with already in detail above.

(v) *Chola dominancy and Kongu Chola period*, 1200 A.D.—We have innumerable inscriptions which give the names of the sub divisions and the towns in them. The new laudable names given by the conquering Cholas are also found in them. I have given them in the appendix in detail and located them in the map. At this period the country had been divided into two big portions called South and West Kongu; and two Cholas Vira Chola and Vira Rajendra (both Kongu Cholas) have been given the title "Conqueror of two Kongus". We can roughly infer that all the territories north of

Kauveri and Noyyal formed North Kongu while those south of them as South Kongu. The Vaishnava Achariya வேதாந்த தேசிகர் mentions the division in his பரமத பங்கம்—செ; 53 —"வடகொங்கில் வானியாற்றில்". According to the records, we may infer that Kongu extended up to Talakad in Mysore, as Cholas had conquered the present Kollegal territory and named it as முடிகொண்ட சோழ மண்டலம் and கங்கை கொண்ட சோழ வளநாடு. The Nadu is known as அடிநாடு or படிநாடு. Further the conquered Kongu was christened as அதிராஜ ராஜமண்டலம் during the reigns of Rajendra and Virarajendra, as Virachola Mandalam during the reign of Vikrama and Cholakerala Mandalam during the reign of Kulothunga III.

(vi) *Mediaeval period, 13th to 15th Centuries.*—Arunagiri Nadhar visited certain places, and he mentioned the name Kongu Nadu in describing the localities so visited. We can infer from his description that no variation had been effected in the extent. The author of Kongu Mandala Satakam gives the extent of the country and the divisions under it. He lived about two and half centuries ago and he has sung his songs basing them on local traditions. The map appended herewith gives an idea of the territory according to his description.

(vii) *Mysore Dominancy,* 1600-1800 A.D.—Kongu country was completely conquered by Kantirava Narasa; and his successors were followed by the Mussalman rulers Hyder and Tippu till 1799 A.D. The country was divided into various sub-divisions and Governors ruled them. One such governor Madayya ruled over Coimbatore. When the English conquered the country, the land was divided into the same divisions, of Bhavani, Dharapuram and Sankeri Durg; subsequently they were re-divided into the present divisions by parcelling the country between Coimbatore, Salem, Trichy and Madura.

IV. *Conclusion* :—As the country was often conquered and annexed by the neighbouring aggressive chiefs, the very identity of the land was being disputed. Yet when we look at the particular civilisation of the inhabitants, their blunt nature, customs and habits, we see that the territory has not lost its individuality, though it had been named and re-named and parcelled out in a number of ways by the various dominant kings. A scrutinising study only will show that it had its own history and geography and that it is worth one's while to make a special study of them.

I கொங்குமண்டல சதகத்தில் காணும் நாட்டுப் பெயர்களும் அவைகளின் உட்பிரிவுகளும்—(The names of Nadus and their sub-division as mentioned In Kongumandala Satakam)	II கொங்கு நாட்டில் அகப்படும் கல்வெட்டு களில் கிடைக்கக் கூடியநாட்டுப் பெயர் களும் அவைகளின் உட்பிரிவுகளும் (The names of regions and their sub-divisions mentioned in the inscriptions found in Kongu Nadu)	III அவைகளின் தற்கால இட அமைதிகள் (Their present situations.)
1. ஆறை நாடு - (Arai Nadu) கோவங்க நாடு-(Kovanga nadu) மன்னி நாடு - (Manni Nadu) கவைய நாடு - (Kavaya Nadu) செம்பை நாடு - Sembai Nadu) தணக்கு நாடு-(Thanaku Nadu) பழன நாடு - (Palana Nadu)	பேரூர் நாடு - (Perur Nadu) வட பரிசார நாடு - (Vadaparisara Nadu) வெள்ள நாடு - (Vella Nadu) பூலுவ நாடு - (Puluva Nadu) சேவூர் நாடு - (Sevur Nadu) நிறற்றூர் பற்று - Nirarrur Patru) வழையலூர் நாடு - (Valayalur Nadu) நாலூர்ப்பற்று நாடு - (Nalurparru Nadu)	ஆறை நாடு - Coimbatore taluk + Avanashi + North-west portion of Palladam taluk பேரூர் நாடு - Coimbatore taluk வடபரிசார நாடு - Avanashi taluk
2. ஒடுவங்க நாடு-(Odu vanga Nadu) டணாய்க்கன் கோட்டை நாடு - (Danaickenkottai Nadu) படி நாடு - (Padi Nadu)	ஒடுவங்க நாடு - (Oduvanga Nadu) படி நாடு or கங்கைகொண்ட சோழவள நாடு - (Padi Nadu or Gangai Konda Chola Puvalanadu)	ஒருவங்க நாடு - Gobichettipalayam taluk $\frac{1}{3}$rd North along Bhavani river
3. வாரக்கா நாடு - (Varakka Nadu)	வாயிரக்கா நாடு - (Vayirakka Nadu)	வாரக்கா நாடு - West half of Palladam and North-east part of Pollachi taluks

4. பொன்கலூர்நாடு-(Pongalur Nadu) தென் பொன்கலூர் நாடு (இதை பொன்குலுக்கி நாடென்பார்) (Then Pongalur Nadu) (This is also called Pon Kulikki Nadu)	பொங்கலூர்க்கா நாடு - (Pongalurka Nadu)	பொன்கலூர் நாடு - Eastern part of Palladam taluk தென் பொன்கலூர் - South portion of Dharapuram taluk
5. காங்கேய நாடு - (Kangeya Nadu)	காங்கய நாடு-(Kangaya Nadu) நற்காவிரி நாடு - (Narkaviri Nadu)	Northern portion of Dharapuram taluk (Kangayam and Vellakoil firkas)
6. குறும்பு நாடு - (Kurumbu Nadu)	குறுப்பு நாடு - (Kuruppu Nadu) வீரசோழவளநாடு-(Veerachola-vala Nadu)	Western half of Erode taluk.
7. காஞ்சிக்கோயில் நாடு - (Kanji koil Nadu)	காஞ்சிக்கூவல்நாடு-(Kanjikuval Nadu)	The portion at the junction of the Gobichettipalayam, Bhavani and Erode taluks.
8. வடகரை நாடு - (Vadagarai Nadu)	வடகரை நாடு - (Vadagarai Nadu)	Bhavani taluk, south of the hills.
9. பூந்துறை நாடு - (Pundurai Nadu) மேல்கரை - (Melkarai)	பூந்துறை நாடு (Pundurai Nadu) மேல்கரை - (Melkarai)	மேல்கரை - North-eastern part of Erode taluk.
கீழ்கரை or குன்றத்தூர் கூற்றம் Kilkarai or Kunrathur Kurram } இணை நாடு- (Equivalent Nadus) 1. பருத்திப்பள்ளி - (Paruthipalli) 2. எழூர்-(Ezhur)	கீழ்கரை - (Kilkarai) பருத்திப்பள்ளி - (Paruttipalli) குன்றத்தூர் - (Kunrathur) நாடாள்வான் நாடு - (Nadalvan Nadu) சேல நாடு - (Sela Nadu) எழூர் நாடு - (Ezhur Nadu)	கீழ்கரை - Trichengode taluk. பருத்திப்பள்ளி - Salem taluk. எழூர் - Northeastern part of Namakkal taluk.

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I கொங்குமண்டல சதகத்தில் காணும் நாட்டுப் பெயர்களும் அவைகளின் உட்பிரிவுகளும்—(The names of Nadus and their sub-division as mentioned in Kongumandala Satakam)	II கொங்கு நாட்டில் அகப்படும் கல்வெட்டுகளில் கிடைக்கக் கூடியநாட்டுப் பெயர்களும் அவைகளின் உட்பிரிவுகளும் (The names of regions and their sub-divisions mentioned in the inscriptions found in Kongu Nadu)	III அவைகளில் தற்கால இட அமைதிகள் Their persent situations.
10. அரய நாடு Araya Nadu | மேல்கரை - (Melkarai) கீழ்கரை-(Kilkarai)	அரய நாடு (Araya Nadu)	மேல்கரை - South Eastern part of Erode taluk. கீழ்கரை - Western half of Namakkal [taluk.
11. தென்கரை நாடு - (Then Karai Nadu)	தென்கரை நாடு - (Thenkarai Nadu)	Southern portion of Dharapuram taluk
12. மண நாடு - (Mana Nadu)	நரையனூர் நாடு - (Naraiyanur Nadu) வட கரை - மணத்தூர் நாடு (Vadagarai) - (Manathur Nadu)	South-western portion of Karur taluk in Trichinopoly District just south of Tenkarai Nadu.
13. வெங்கால நாடு - (Vengala Nadu) இடைப்பிச்ச நாடு - (Idaipicha Nadu)	வெங்கால நாடு - (Vengala Nadu) இடைப்புழுதி நாடு - (Edaipuzhuthi Nadu)	Eastern portion of Karur taluk
14. தட்டய நாடு - (Thattaya Nadu)	தட்டையூர் நாடு-(Thattaiyur Nadu)	North-western part of Kulitalai taluk
15. கிழங்கு நாடு - (Kizhangu Nadu)	கிழங்க நாடு - (Kizhanga Nadu)	South of Kaveri river in Karur taluk adjoining Kulitalai taluk.
16. தலைய நாடு - (Thalaya Nadu)	தலையூர் நாடு-(Thalayur Nadu)	South part of Karur
17. அண்ட நாடு - (Anda Nadu)	அண்ட நாடு - (Anda Nadu)	South-east part of Palni taluk.
18. வையாபுரி நாடு-(Vayyapuri Nadu)	வைகாவி நாடு - (Vaigavi Nadu) கரைவழி நாடு - (Karaivazhi Nadu) ராஜராஜவள நாடு - (Raja Rajavala Nadu)	Western half of Palni taluk and along Amaravathi river in Udumalpet taluk. கரைவழி - Amaravathi valley.

19. நல்லுருக்க நாடு - (Nallurukka Nadu)	நல்லுருக்கா நாடு- (Nallurukka Nadu)	Western half of Udmalpet taluk.
20. காவடிக்களுடு-(Kavadikka Nadu)	காவடிக்கா நாடு - (Kavadikka Nadu)	Eastern part of Pollachi taluk.
21. ஆனைமலை நாடு-(Anaimalai Nadu)	(பெயர் இல்லை) - (No name)	South-western part of Pollachi taluk.
22. பூவாணிய நாடு - (Puvaniya Nadu) நங்கைவல்லி நாடு - (Nangaivalli Nadu) பக்க நாடு - (Pakka Nadu) பெரும்பாலை நாடு-(Perumbalai Nadu)	வடபூவாணிய நாடு - (Vatapuvaniya Nadu) கிட்பா நாடு - (Kitpa Nadu) வஞ்சி நாடு - (Vanji Nadu)	Omalur taluk.
23. வாழவந்திநாடு-VazhavanthiNadu) தூசூர் நாடு - (Dusur Nadu) விமலை நாடு - (Vimalai Nadu)	(இல்லை) - (No)	Northern part of Namakkal taluk.
24. இராசிபுர நாடு - (Rasipura Nadu) கொல்லிமலை - (Kollimalai) 14 நாடுகள் - (14 Nadus) சேல நாடு - (Sela Nadu) சேர்வராயன் மலைமீது 3 நாடுகள்- (Three Nadus on Shevaroy hills)	(இல்லை) - (No)	Salem and Rasipuram taluks.
இவைகளுக்குச் சரியான பெயர்கள் சதகத்தில் இல்லை - (No equivalent names in Satakam)	புறமலைநாடு-(Puramalai Nadu) புறங்கரம்பை நாடு - (Purankarambai Nadu) வருப்புக்கா நாடு-(Varuppukka Nadu) வீரகேரளநாடு-(VeerakeralaNadu) வளுப்புற்றக்கு நாடு-(Valuppurrakku Nadu) பருள் நாடு-(Parul Nadu) தென்கடம்பை நாடு - (Thenkadambai Nadu) போசல நாடு - (Posala Nadu) தகடை நாடு - (Thagadai Nadu)	கொங்குநாட்டுக்குவெளிநாடுகள்-(Nadus outide Kongunadu.)

A Survey of the Recent History of the Coimbatore Region

By Mr. C. S. Srinivasachari, M.A.

The present district of Coimbatore was not at any time a political entity. Together with the south-western taluks of the Salem district, it formed the Kongu country and the name Kongunad is still applied to it. It was successively under Chera, Pallava, Chola, Hoysala and Vizianagara rule and after the decline of the last-named empire it was a bone of contention between the Vijianagara governors and the growing power of Mysore. The Mysore king Chikka Deva Raya and his predecessors brought the regions of Kaveripuram, Erode, Dharapuram and Satyamangalam under their sway. The rule of Hyder Ali and Tippu Sultan over the region and their frequently waged wars with the English and the Nawabs of the Carnatic made the district " a scene of incessant marches and countermarches, advances and retreats, by the British and Mysore troops." In these, the forts of Erode, Karur, Dharapuram and Coimbatore figured prominently. Karur was first captured by the English in 1760, as a measure of retaliation for the assistance rendered by Hyder to the French during the last Anglo-French struggle. Eight years later Colonel Wood marched through the district, overran it and garrisoned the chief forts and fortified passes; but the English occupation vanished into thin air before Hyder's advance into the country from the west coast where he was first engaged.

In the course of the next Mysore war Colonel Lang entered Coimbatore in 1783 after Hyder's death when Tippu was engaged in the West Coast. He captured Karur and Dharapuram; and he was followed a few months later by Colonel Fullerton who marched through the district in order to relieve Mangalore and took Coimbatore on the way. In the war waged by Lord Cornwallis against Tippu the district was the scene of considerable military operations; and the force of General Medows marched precipitately into the district and then tried to force a penetration through the Gazzalhatti Pass into the heart of Mysore. In July 1790 Medows

was at Coimbatore when Tippu suddenly descended from the famous pass and inflicted severe blows on the British troops from different quarters. Colonel Maxwell was narrowly saved from Tippu's wrath by General Medows. Tippu had two stubborn engagements with Colonel Floyd at Satyamangalam, compelled the British troops to retreat and re-occupied all the forts in the district except Coimbatore and Karur. Coimbatore fell into the hands of Tippu after a gallant defence while Karur was restored to him after the peace of Seringapatam in 1792. The brave defence of Coimbatore has been enthusiastically narrated by Colonel Wilks in Chapter XL of his History of Mysore and the attack of the Mysore general Kamar-ud-din was conducted with considerable degree of skill. The District was finally acquired by the Company in 1799.

When it was acquired it was a small region, including only the divisions of Satyamangalam, Karur and Dharapuram and extended in area some 50 miles north to south and 45 miles east to west.

Coimbatore City suffered much by the frequent wars between the British and Mysore. In 1801, *i.e.*, two years after the British occupation, it contained only 2,000 houses though in Hyder's reign it had double that number. *Dharapuram's* mud fort was much injured by the wars: but it continued for some years after its permanent occupation by the British to be the Head-Quarters of a military corps. The town of *Anaimalai* situated 23 miles south-east from Palghat, was a common thoroughfare between Malabar and the southern part of the Karnatic. The rulers of Madura and Mysore had erected two forts at the place. *Pollachi*, a small town in southern Coimbatore had a mud fort and yielded in 1800 a pot containing a great many coins of Augustus and Tiberius, probably the earliest find of Roman Coins in South India.

Aravakurichi, formerly subject to Madura and then to Mysore, was practically destroyed by the English in the second Mysore war. The fort and Pagoda at Karur were injured by English mines in the siege of 1781 and the fort was abandoned 20 years later. Its situation at a conterminal place, under the security of a strong fort made it a place of considerable trade activity. *Erode* declined rapidly from Hyder's time, under the

stress of the invasion of General Medows in particular, till in 1801, it contained only 400 houses with a battalion of sepoys in a large mud fort. *Satyamangalam*, dominated by a large fort of uncut stone, had a garrison but only a few houses at the time of the British occupation. *Kaveripuram*, *Kollegal*, *Bhavani*, *Kudal* and other small places were existing in a manner. The first was an entrepot of trade between the countries above and below the Eastern Ghats. Kollegal was a mart for the traders between Seringapatam and the country below the Ghats near the Kaveri.

Some Place-names of the Coimbatore Region

By Mr. S. Natesan, B.A., (Hons) L. T.

The study of place-names is an extremely interesting phase of Geographical research. Place-names are based largely on the physical and historical environment of the localities concerned. And so, they enshrine so mu[illegible] Geography and History affording a fruitful source of inve[illegible]. It is very often the way with man to name the place wh[illegible] lot is cast after what strikes him to be most chara[illegible]out it, a phenomenon which is well borne out by a cursory examination of place names the world over.

Coimbatore being the venue of the present Geographical Conference, it is perhaps in the fitness of things to embark upon a critical enquiry into the place-names of the Coimbatore Region. An analytical survey of the place-names of this district helps in classifying them under 16 divisions as those ending with the following suffixes :—1. Palayam. 2. Patti. 3. Pettai. 4. Halli. 5. Palli. 6. Kulam. 7. Mangalam. 8. Cheri. 9. Turai. 10. Mudi. 11. Kuttai. 12. Eri. 13. Samudram. 14. Kovil. 15. Kottai. 16. Malai. 17. Kadu. The following will indicate the maximum geographical distribution of such interesting variety of place-names of this region with examples thereof :—

Categories.	Maximum No.	Taluks.	Examples.
1. Palaiyam.	94	Erode ...	Oddarpalayam, Puduppalayam (A) Mettupalayam, Settipalayam (B), Periyanayakanpalayam (C).
2. Patti ...	24	Pollachi ...	Mungilpatti, Sanyasipatti (B).
3. Pettai ...	3	Bhavani ...	Ammapettai (B).
4. Halli ...	20	Kollegal ...	Bandahalli, Chennilinganballi (K).
5. Palli ...	5	Gobichettipalayam.	Sengapalli (A) Ikkarai, Tattapalli (G).
6. Kulam ...	2	Avanashi ...	Punjai Tamaraikulam (A) Andikulam (B).
		Udumalpet ...	
		Bhavani ...	
7. Mangalam	4	Erode ...	Vadivullamangalam (E) Kesarimangalam (B).
8. Cheri ...	1	Bhavani ...	Oriccheri (B).
		Udumalpet ...	
9. Turai ...	3	Avanashi ...	Muduturai, Oddanturai (A).
10. Mudi ...	6	Pollachi ...	Korangumudi, Ganjamudi (P).
11. Kuttai ...	2	Erode ...	Kammalakuttai, Settikuttai (E).
12. Eri ...	1	Udumalpet ...	Ponneri (U).
13. Samudram.	1	Bhavani ...	Gettisamudram (B) Rangasamudram (G) Sivasamudram (K).
		Erode ...	
		Gobi ...	
		Kollegal ...	
14. Kovil ...	2	Dharapuram ...	Kannankovil (D)
15. Kottai ...	2	Udumalpet ...	Periakottai (U).
16. Malai ...	2	Erode ...	Sivagiri, Elavamalai (G).
17. Kadu ...	1	Erode ...	Navakadu (G).

Before seeking to explain the why and wherefore of such distribution of place-names, it will perhaps conduce to clearness if we can get at the meanings of the endings of place-names of which a list is given above. Palayam, a term which is found in so much profusion in the district means simply an encampment more or less analogous to the cantonment of modern times. Palli and patti signify merely hamlets chiefly of the pastoral type where the soil is too poor for cultivation. Halli, a Canarese term, bears a synonymous meaning. Kottai and Pettai may be taken as correlative, the former denoting a fortress and the latter suburbs around it. The term 'Mangalam' is an interesting one, being an abbreviation of Chatuvedi Mangalam or the blessed abode of Brahmins well-versed in the four Vedas. Places ending with Mangalam mean merely lands or villages which formed the gift of the ruling princes or chieftains, the idea underlying the gift being the promotion and spread of learning and culture. 'Cheri' means perhaps a hamlet inhabited chiefly by the subcastes or low castes given to the tilling of the soil or the rearing of cattle. 'Mudi, denotes crest or crown and one may infer that places ending with this term might be situated on or at the foot of the hills whose names they bear. Mudi also means 'knot,' and refers probably to the angle that is formed where a river makes a bend. The name Kodumudi is an instance in point. The remaining terms like Kuttai, Eri, Samudram, Koil, Kadu etc. are self-explanatory. Places ending with 'Turai' represent spots where rivers are fordable.

It is interesting to examine how there is such an abundance of place-names ending with 'Palayam' in the Coimbatore region especially in the Erode Taluk. The reason for it is obvious. Coimbatore is a buffer area with the hilly regions of Mysore to the North and the Anamalai to the south, the Nilgiris to the west and the valley of the Cauvery to the east. It is the gateway to the Malabar District. The situation of Erode is such as to give easy access to the much-coveted Cauvery Valley. It was therefore expedient perhaps to provide adequate safeguards against the incursions of enemies by creating a number of 'Palayams' controlled by chieftains appointed by the suzerain power. Puduppalayam and Pallavarayanpalayam in the Erode Taluk are instances in point. Historically speaking these palayams came into prominence after the break-up of the Vijianagar Empire when the chieftains began

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to assert their independence. The inference is that military outposts tend to spring up in regions where the hills slope down into valleys giving free passage to the fertile lands lower down. Students of British History might recall how the Normans found it expedient to appoint a number of "Marcher Overlords" on the Welsh border.

Patti, Palli, and Halli, are represented chiefly in Pollachi, Gobichettipalayam and Kollegal respectively, all the three regions being hilly and so pastoral. What is more natural than to find place-names in these taluks ending with a term denoting a pastoral hamlet. Kottai and Pettai usually go together being often found in hilly regions. Periakkottai and Kurichikkottai are in the Udumalpet Taluk, because it is a regions of hills and dales affording a convenient site for military strongholds. Similarly Pettais like Ammapettai and Singampettai are found largely in Bhavani which is also a hilly tract and such places are perhaps the remnants of old military camps.

Though places having their names ending with 'Mangalam' are strewn all over the district, yet the maximum number belongs to the Erode Taluk and the reason for it is obvious enough. Mangalam as we have already seen denotes gifts of the ruling chiefs or kings for the spread of Brahmanical culture. Erode, being at the entrance to the lower valley of the Cauvery the seat of the celebrated Chola dynasty, had presumably the lion's share of such gifts. From historical records, one can discover how it was not only the Cholas but the Cheras, Pallavas and Pandyas also had made similar grants to Brahmins. Sendamangalam is the gift of a Pandya king, while Kesarimangalam is that of a Chola Monarch the term 'Kesari' being a specially characteristic title of kings of the Chola dynasty. It should be of absorbing interest to investigate the history of the hundreds of Mangalams scattered over the Tamil Nadu, but the subject, one may suggest, is suitable for a separate paper.

Place-names ending with 'Turai' have a charm of their own. Such place-names are not peculiar to our land ; parallel ones are found in western countries also : Wallingford and Stratford are instances in point. They should easily suggest to the traveller or the tourist convenient spots where rivers could be forded.

Muduturai on the river Noyyil flowing through the Avanashi Taluk may be cited as an example.

We shall next take up the place-names ending with 'Mudi.' The largest number of such place-names is found in Pollachi which is extremely hilly in the south. Anaimudi, Korangumudi and Ganjamudi are interesting examples pointing to an important aspect of the Geography of the region.

Place-names having Kulam as their suffix are found largely in Avanashi, a dry area having no river worth the name save the Noyyil of uncertain flow, in Udumalpet Taluk a hilly tract and in Bhavani. Where rivers are absent or cannot be relied upon, man naturally collects water in convenient spots for purposes of irrigation, etc., and human groupings in their neighbourhood go by their names, *e.g.*, Punjai Tamaraikulam in Avanashi and Andikulam in Bhavani. Similarly there are enough instances of places ending with the epithet 'Samudram' (a large sheet of water). People in interior districts living away from the sea were perhaps prompted to give a respectable body of water—a tank, a lake, or waterfall the dignified title of Samudram ; and places in their proximity are called after them *e.g.*, Gettisamudram (B) Rangasamudram (Gobi) Sivasamudram (Kollegal.)

Following the same line of enquiry we can easily guess the history of such place-names as those ending with Kovil, Kuttai, Kadu, etc. Our conclusions though largely a matter of guess-work are yet suggestive. The place-names that have come under our scrutiny are not after all accidental in their origin ; but have on the contrary a certain logic, coherence and music of their own. The second point of interest is that place-names, once established, are often more enduring than a nation or a language preserving their identity through the ages in spite of changes coming over the land. Further not a few of the place-names have a poetry and a romance of their own, wrapping in themselves a good deal of history and legendary lore. Here is a field therefore for scholars to exercise their talents and contribute their share by way of rendering the place-names of the Home Region intelligible and interesting.

An Analysis of the Names given to Towns and Villages in Kongu Nadu

By Mr. C. M. Ramachandra Chettiyar, B.A. B.L.

As in other places in India and abroad, we find in Kongu Nadu also particular significance attached to the names given to villages and towns. An analysis of their names, especially of the suffixes and prefixes forms an interesting study. Most of the names have suffixes which denote that they refer the name as a town or a village. In certain cases where there are names common to two or more towns, it is usual to have a prefix to distinguish one from the other.

Such suffixes and prefixes are always common nouns which have particular meaning. The main word with which the suffix or the prefix is attached will generally be a proper name either of a person with whom the town was associated or of the God or the temple or other objects which gave rise to the town. The suffix invariably refers to the nature of the place where the town is situated.

On an analysis of suffixes in Kongu Nadu we find that there are 23 terms which signifiy a town or village (ஊர்.) They are:—

1. அக்கிரகாரம் (Agraharam)
2. ஊர் (Oor)
3. குறிச்சி (Kurichi)
4. குப்பை (Kuppai)
5. கொம்பு (Kombu)
6. கொப்பம் (Koppam)
7. சேரி (Seri)
8. நகரம் (Nagaram)
9. பட்டி (Patti)
10. பள்ளி (Palli)
11. பதி (Pati)
12. பட்டணம் (Pattanam)
13. பாளையம் (Palayam)
14. பாடி (Padi)
15. பாடு (Padu)
16. புரி (Puri)
17. புரம் (Puram)
18. மங்கலம் (Mangalam)
19. வழி (Vazhi)
20. வாடி (Vadi)
21. ஹள்ளி (Halli)
22. ஹட்டி (Hatti)
23. வள்ளி (Valli)

There are 11 names which denote part of a town or a house. They are:—

1. கோயில் (Koyil = Temple)
2. கோட்டை (Kottai = Fort)
3. சத்திரம் (Sathiram = Choultry)
4. சாவடி (Chavadi = Choultry)
5. தெரு (Theru = Street)
6. நத்தம் (Nattam = Open Space

7. பேட்டை (Pettai = Portion of a town)
8. மடம் (Madam = Monastery)
9. வலசு (Valasu = House)
10. வளவு (Valavu = House)
11. விளக்கு (Vilakku = Lamp)

There are eighteen names which denote water and its connections. They are :—

1. அணை (Anai = Dam)
2. ஊற்று (Oottu = Spring)
3. ஏரி (Eri = Tank)
4. கரை (Karai = Bank)
5. கடவு (Kadavu = Ford)
6. கிணர் (Kinar = Well)
7. குளம் (Kulam = Lake)
8. குட்டை (Kuttai = Pond)
9. குழி (Kuzhi = Pit)
10. கூடல் (Kudal = Junction)
11. சேரே (Sere = Tank)
12. சமுத்திரம் (Samuthiram = Ocean)
13. துறை (Turai = Port)
14. பாவி (Bavi = Well)
15. மடை (Madai = Sluice)
16. வாவி (Vavi = Well)
17. வாணி (Vani = River)
18. ரேவு (Revu = Port)

The following 11 names denote agricultural connections :—

1. இறைச்சல் (Iraichal = Baling)
2. களம் (Kalam = Field)
3. காணி (Kani = A land measure)
4. சாலை (Salai = Garden shed)
5. தொழுவு (Thozhuvu = Cattle pen)
6. தொட்டி (Thotti = Tub)
7. தோப்பு (Thoppu = Grove)
8. தோட்டம் (Thottam = Garden)
9. படுகை (Padukai = Low wet land)
10. புறம்பு (Purambu = Open Field)
11. வேலி (Veli = Hedge)

The following 16 names denote the nature of the region :—

1. கரடு (Karadu = Hilly rock)
2. காடு (Kadu = Forest)
3. கிரி (Giri = Hill)
4. திட்டு (Thittu = Mound)
5. திம்பம் (Dimbam = Mound)
6. பள்ளம் (Pallam = Ditch)
7. பரப்பு (Parappu = Surface)
8. பாறை (Parai = Rock)
9. பெட்டா (Betta = Hill)
10. மணல் (Land = Sand)
11. மலை (Malai = Hill)
12. முடி (Mudi = Hill top)
13. மூலை (Moolai = Nook)
14. மேடு (Medu = Highland)
15. வாய் (Vai = Mouth or Opening)
16. வழி (Vazhi = Way or road)

The following denote some miscellaneous ideas :—

1. ஓடு (Odu — Tile)
2. காலம் (Kalam = Time)
3. குண்டி (Kundi = Village)
4. தேவி (Devi = Goddess)
5. நாரி (Nari = Female)
6. பாண்டி (Pandi = Pandya)
7. பூண்டி (Poondi = Village)
8. முகை (Mugai = Crowd)
9. முண்டி (Mundi = Village)
10. வலை (Valai = Net)

For the last list, context will however warrant different interpretation of the names.

II

Of the above list, the following names are peculiar to Kongu country :—

1. கொம்பு (Kombu)
2. பதி (Pati)
3. நத்தம் (Nattam)
4. வலசு (Valasu)
5. வளவு (Valavu)
6. கடவு (Kadavu)
7. மடை (Madai)
8. வாணி (Vani)
9. இறைச்சல் (Iraichal)
10. காணி (Kani)
11. தொழுவு (Thozhuvu)
12. படுகை (Padugai)
13. புறம்பு (Purambu)
14. வாய் (Vai)
15. ஓடு (Odu)
16. காலம் (Kalam)
17. நாரி (Nari)
18. முகை (Mugai)

The following are found elsewhere also but are prominent in Kongu Nadu :—

1. பாளையம் (Palayam)
2. ஊத்து (Uthu)
3. கரை (Karai)
4. குண்டி (Kundi)
5. முண்டி (Mundi)
6. பெட்டா (Betta)
7. திட்டு (Thittu)
8. ஹள்ளி (Halli)
9. ஹட்டி (Hatti)
10. வள்ளி (Valli)

The rest of the names are found everywhere in Tamil and Canarese country.

Of the names peculiar to Kongu Nadu, the following explanatory notes are given as they form an interesting study.

1. கொம்பு (Kombu)

Example—Alankombu. The ordinary meaning of Kombu is branch of a tree and Alankombu may mean branch of a banyan tree. It may be that this particular village might have been connected with a branch of a Banyan tree in its origin. But this is not a proper explanation in its general sense. In Telugu (కొంప) Kompa means a house or a family. Such a suffix to a place shows that it is filled with houses or inhabited by families. So the word means merely a village

2. பதி (Pati)

Example—Vellaipati, Kumittipati.

In Kongu country, the word pati means the village of the tribes called Irular or Malasar. These villages are mostly found on the hills and amidst jungles adjoining the hills. It would be interesting to note that once upon a time the city of Coimbatore was known as Koyampati (கோயம்பதி) or Kovampati (கோவம்பதி) meaning a village of the Irula named *Koyan or Kovan.*

3. நத்தம் (Natham)

Example-Kiranatham.

The word means open place in the village or poramboke. It may mean a village erected in a poramboke.

4. வலசு (Valasu)

Example—Kandai Goundan Valasu.

The name is prevalent in the taluks of Erode and Dharapuram, where Kongu Vellalas are prominent. In Telugu country, the word (వలస) is in vogue as a suffix to the village name. The word valasa means a settlement or colony. So it has been affixed to a village formed as a fresh settlement or colony.

5. வளவு (Valavu.)

This word means. in common parlance, a house. It is generally used among the Kongu Vellalas. Person's names are always indicated by house locality as நடுவளவு (central house), மூலைவளவு (corner house), மேல் வளவு (west house), இருள வளவு (Irula house), etc. The word would have been the corrupt form of வளைவு or bent form. It might have come from வளை or hole, for instance, எலிவளை or rat hole. Compare the proverb எலிவளையானாலும் தனிவளை when a separate household is referred to.

6 கடவு (Kadavu.)

Example—Kinattukadavu; Tunakkadavu.

The word means passage and generally refers to water. In Malayalam it refers to ferry or fording as in the names Toppukadavu, Vanjikadavu, Kottarakadavu, the names of river crossings at Alwaye.

7. மடை (Madai.)

Example—Karamadai, Karadimadai, Pannimadai.

The words means sluice or a canal. So wherever a town is built near a sluice or a canal, it gets the name. Karadimadai may mean a sluice or a canal where a bear drank water and pannimadai where a pig drank water.

8. வாணி (Vani,)

Example—Bhavani, Mevani, Kilvani.

The word takes origin from the river Bhavani. The towns situated on the river take the name according to their position. Rivers are also called by this name, *e.g.*, Siruvani and Peruvani.

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9. இறைச்சல் (Iraichal.)

Example—Puttiraichal, Velliraichal, Salakkiraichal, etc.

The name is common in Palladam and Erode Taluks. In a corrupt form Erichal is used. Iraichal means irrigation of water. The villages would have got the names from the well irrigation which is common in those Taluks.

10. காணி (Kani.)

Example—Nadu Kani, Kattan Kani.

Kani means land (generally) and a land measure amounting to 24 grounds. The word might have its origin from the unit which a man can supervise, for கண் (Kan) means see or supervise. Nadu Kani means the place frôm which a man can see the surrounding land, Kattankani may mean the land belonging to Kattan.

11. தொழுவு (Thozhuvu.)

Example—Perunthozhuvu. The word means cattle-pen.

In Malabar also this word is used for the garden in the back-yard of a house. The traditions of several villages show how cattle-pens were connected with those villages and gave names to them.

12. படுகை (Padugai.)

Example—Vannanpadugai.

It means wet land near the bank of river. Villages built at such places bear such names.

13. புறம்பு (Purambu).

The word means outside or separate. Any village formed outside a particular locality or as a separate unit from the other groups may get its name from such a position.

14. வாய் (Vai.)

Example—Koduvai, Paruvai. Vai means mouth or opening.

The village situated at the opening of a jungle or river etc. may get such a name.

15. ஓடு (Odu.)

Example—Erode, Vellodu, Chittodu.

The word is referred as Odai in "Kongu Mandala Satakam" list. So it will mean rivulet. Any town situated on such a rivulet will get the name. But people now give different interpretation for

"Odu" as Skull. For Erode they give a meaning as wet skull and connect the town with the begging incident of Siva with a skull wet with blood. The latter story is spurious.

16. காலம் (Galam.)

Example Kollegalam, Satyagalam.

According to the inscriptions, the old name of Kollegal is Kollegara. So Galam is the currupt form of Agaram. This means town and is in use in other parts of southern India. The word Galam is in use in Kollegal Taluk only.

17. நாரி (Nari.)

Example—Ichanari.

The word has several meanings including 'Middle' so it may mean 'the middle of Icha trees',

18. முகை (Mugai.)

Example—Sirumugai, Sathimugai.

The word means crowd. So it may mean a village or crowd of people. It is common in the Bhavani Valley only.

III

Now coming to the names which are prominent in Kongu Nadu and which are fouud in other districts as well, we wlll select a few of them for explanatory purposes.

1. பாளையம் (Palayam.)

There are hundreds of names in this District bearing the suffix "palayam." In fact every new village formed recently either bears the suffix Palayam or Pudur. If the village is started by a Telugu speaking community (Telugu speaking Kammas are abundant in the villages) it invariably gets the suffix Palayam.

The word palayam means camp. During the Vizianagar and Nayak rules, military camps or palayams were located: and their chiefs called Palayagars ruled from those places. In course of time, palayam became synonymous with a village. In fact Telugu people when referring to palayam call it పల్లె (Palla) or Village. There are a number of Palayapats (பாளையப்பட்டு) in this country and in Madura District which nowadays have begun to assume the glorific title of Zamin.

2. ஊத்து (Uthu.)

The word means spring. It would have naturally given its name to the village with a spring near it. This is common in other districts also.

3. கரை (Karai.)

It means a bank of a water course. There are innumerable instances of such names affixed to villages. The same reason as to the former name applies to this also. I have already given 18 names referring to waterways, and courses and objects attached to them.

4. குண்டி (Gundi) and முண்டி (Mundi).

These are found mostly in forest areas near Kanarese speaking tracts. Examples. நிர்குண்டி (Nirgundi), வேளாமுண்டி (Velamundi.) They refer to forest villages.

5. திட்டு (Tittu) திம்பம் (Timbam) பெட்டா (Betta)

These mean mound or hill. They are also found in bordering Kanarese tracts. In fact the two latter suffixes are Canarese terms.

6. Similarly ஹட்டி (Hatti) and ஹள்ளி (Halli)

They are the synonyms in Kanarese for பட்டி and பள்ளி of Tamil and are found mostly in Kollegal Taluk. They merely mean village.

7. The word வள்ளி is the corruption of பள்ளி and some say of வழி (way.)

The name வடவள்ளி Vadavalli might have been (வடப்பள்ளி) or (வடவழி) as some say. பறஞ்சேர்வளி Paranjervali might be பரன்சேர்பள்ளி (God's village) or பரன்சேர்வழி (God's way.)

There are a number of names which are current in this land and which are equally current in other districts. They are names like அக்கிரகாரம், ஊர், சேரி, நகரம், புரி, மங்கலம், கோயில், கோட்டை, பேட்டை etc. It is unnecessary to elaborate their significance here.

IV

Now coming to prefixes, we find them used mostly with the object of distinguishing one village from another when both of them bear the same name or when one village is bifurcated into two for purposes of administration. Such a denomination would

have naturally a governmental or administrative origin. They are prevalent mostly in Erode Taluk. A few examples will explain the matter.

1. Nanjai and Punjai.

They mean wet land *versus* dry land, as found in the names of Nanjai Kalamangalam and Punjai Kalamangalam.

2. Agraharam and Sirkar.

One refers to the Inam village while the other to ryotwari village as found in Agraharam Periapalayam and Sirkar Periya-palayam.

3. Chinna and periya.

Small versus big, as found in Chinna Virasangili, Periya Vira-sangili. The reason is plain.

4. Tenmugam and Vadamugam.

They mean Southside and Northside as found in the names Tenmugam Vellodu and Vadamugam Vellodu. This division has come out of the bifurcation of a village into north and south.

5. Mukasi and Attavanai. (முகாசி; அட்டவணை)

These names are peculiar to Erode Taluk. They mean original and subsequent. The terminology has come out of Muhammadan Period. One example is Mukasi Pidariyur and Attavanai Pidariyur.

6. Thuyyam (துய்யம்).

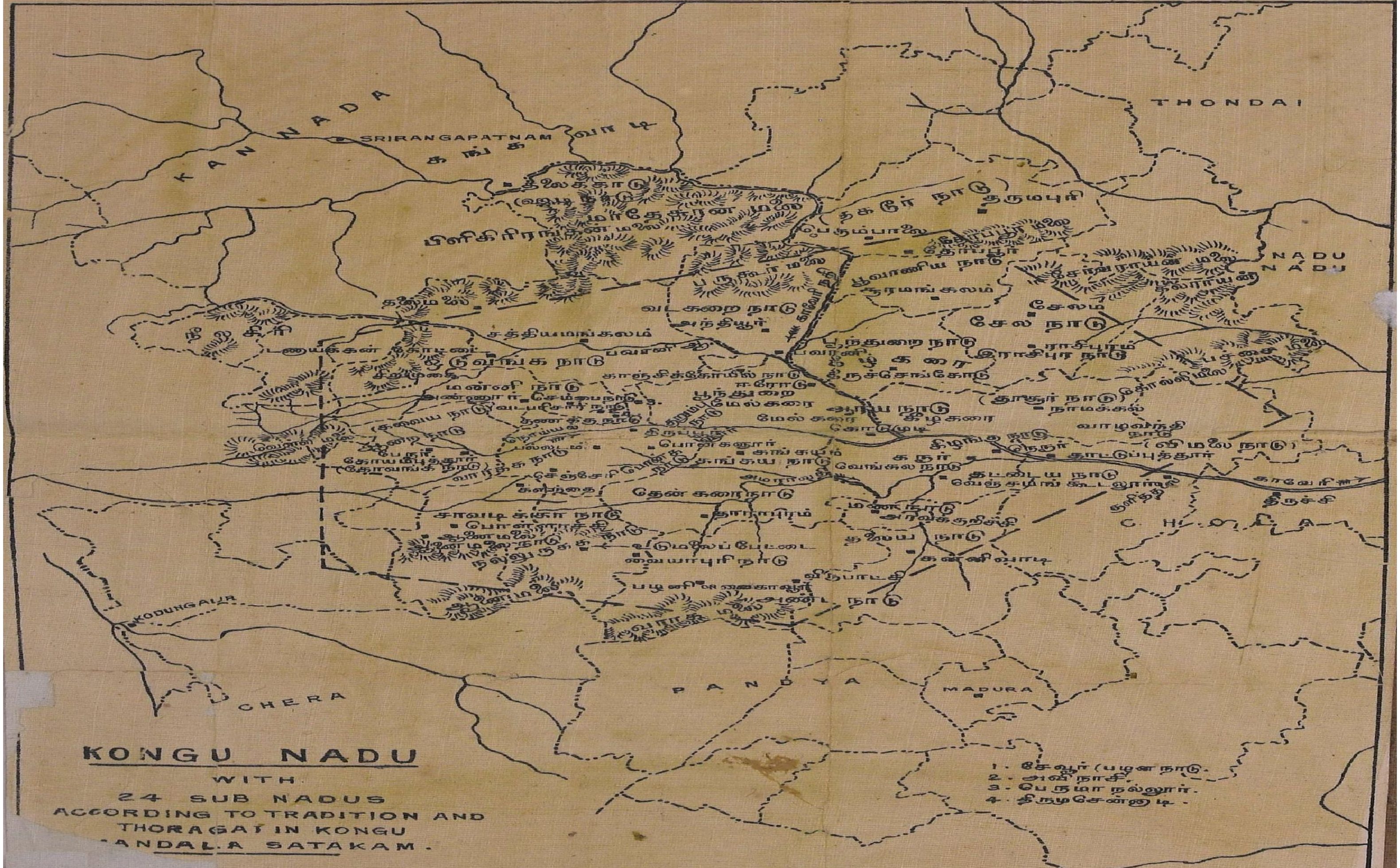
This is also peculiar to Erode. The term means second. It has come from Hindustani (Do—Two). The example is found in Pundurai and *Thuyyam* Pundurai.

In other Taluks in this district, such names as chinna and periya, ten and vada, Agraharam and Sirkar are found. But no other special prefixes are current. As observed above, these prefixes are introduced to distinguish one village from another after their bifurcation by the authorities.

MAP No. 1

KONGU – NADU
SHOWING LIMITS AND BOUNDARIES WITH RIVERS AND OLD TOWNS.

MAP No 2



KONGU NADU

WITH

24 SUB NADUS

ACCORDING TO TRADITION AND

THORAGAI IN KONGU

MANDALA SATAKAM.

NATHAMOONEY NAIDU & SONS, PURASAIWALKAM, MADRAS.

MAP No. 3

LITHOGRAPHED BY. P. NATHAMOONEY NAIDU & SONS PURASAIWALKAM. MADRAS.

MAP No 4

KONGU COUNTRY

SHOWING GEOGRAPHICAL LIMITS AS FOUND TODAY.

LITHOGRAPHED BY. P. NATHAMOONEY NAIDU & SONS, PURASAIWALKAM, MADRAS.

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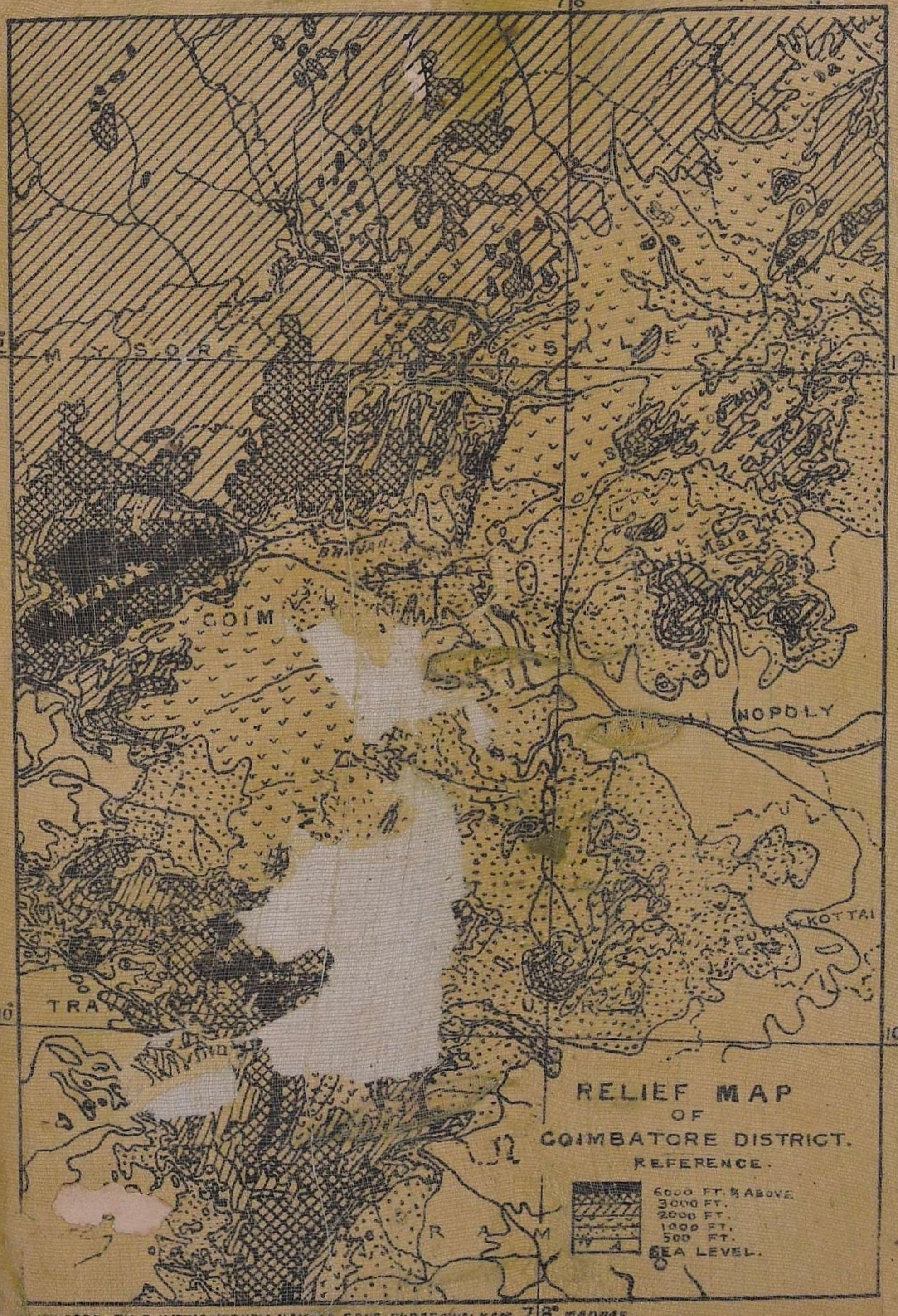
MAP No. 5.



LITHOGD. BY P. NATHAMOONEY NAIDU & SONS PURASAWALKAM 78° MADRAS.

A Note on the Physical Geography and Geology of Coimbatore District

By Mr. T. N. Muthuswami, M.A., L.T.

A glance at the District Map of Coimbatore reveals that the district is bounded on the north, south and west by mountain ranges and on the east by the Cauvery. From the course of the Cauvery and the drainage of the district it is easy to make out that the country has a gradual slope towards the interior both from the north and the south, with however a gentle rise of land along the belt occupied by Singanalur, Ayyampalayam, Palladam and Kangayam that is approximately 11° longitude. This forms in the district the water-shed between the Noyil on the north and the Amaravathi on the south. There is also a general slope of the country towards the eas[illegible] is indicated by the direction of flow of the two rivers above mentioned, and that of the Bhavani. Though such is the gen[illegible] configuration of the land the country is interrupted here [illegible]ther [illegible] oscillations of level and small hillocks.

Rivers—The river[illegible] co[illegible]trict are chiefly the Cauvery, Bhavani, Noyil, Ama[illegible] [illegible]yar with their tributaries. The waters of the C[illegible] for irrigation of only a small portion of the dist[illegible]ving its course at the extreme eastern border, th[illegible]ountry being to the east. Of the other rivers that cr[illegible] of the district the Bhavani is the most important. It [illegible]s freshes about the beginning of June from the South[illegible]soon and is fairly full to the end of Au[illegible]. The North[illegible]on also contributes some freshes in [illegible]r. The tri[illegible] receives during its course, though ma[illegible]ber, do not contribute any large supply to the river. Satya[illegible]lam and Bhavani ar[illegible] irrigated largely by channels from the Bha[illegible]. The Noyil is dry most of the year. The South-West Monsoon and the streamlets that join the river are the suppliers of water. It plays little part in the irrigation of the district. The Amaravathi however is fully utilised for irrigation during its whole

course. It is also fed by the South-West Monsoon and the numerous jungle streams.

Orography.—Nearly three-sevenths of the area of Coimbatore is occupied by hills. Those on the north form an extension of those of Mysore and little is known of the Geology of the area. But the Anamalais in the south present a strong family likeness to the Palani hills on the one side and to the Malabar hills on the other. They have got the characteristic bedded appearance, the lenticular form, they present acid secretions and basic segregations, they are diversified by coarse contemporaneous veins; they vary very widely in their chemical composition, acidic to basic and even ultra-basic types being found. Microscopic examinations of these have confirmed the field characters to have them grouped under the Charnockite petrographical province of South India.

Next in importance to the Charnockite hills are the Sivamalai hills of the Dharapuram Taluk and the chain of small hillocks in continuation of the same towards Karutapalayam. These are grouped separately as they show characters far different from the Charnockite masses. These are also igneous in origin but formed at a different time, earlier or later it is difficult to say. These show a gneissic and foliated character, tho[illegible] the foliation is not so pronounced as to develop a fissilit[illegible] are traversed by coarse veins; but so far no evidence [illegible] discovered to show the intrusive nature of the main r[illegible] Though in these hills are also found varieties of rock [illegible]ing mineralogically and chemically, yet they have a co[illegible] of relationship as to justify the inclusion of these hills a[illegible]ne common cause. In other words these like the Charr[illegible]n another petrographical province in South India.

Granitoid hillocks with well [illegible] foliation, highly felspathic and pink in colour traversi[illegible]rse pegmatites (coarse granites) are scattered in the leve[illegible]y of the district. Some of these hills are seen as one trav[illegible]m Coimbatore [illegible]ettupaiyam by train. Such out-crops [illegible]re also found [illegible] the Palghat gap and near Karur. From these pegmatites [illegible]btained huge masses of felspar and quartz; in fact, the glist[illegible]ing milky white pieces of quartz used for the railway line from Coimbatore to Mettupalayam come from these pegmatitic out-crops. A very large amount of octahedral crystals of magnetite has been noted

along the lower slopes f the hills obviously washed down from the tops. They are also een jutting out prominently in the rocks amidst the more easily weathered felspar. No search has yet been made for miner ls of e onomic value in the pegmatites.

The low country of the district is composed of the fundamental gneisses and schists which are foliated to a degree as to develop a remarkable fissility. A blow by the hammer splits them into slabs. These outcrop from the cultivated ground in many places with high angles of dip and with a general E.N.E. to W.S.W. trend. They have been compared aptly to the tomb-stones in a churchyard. The rocks include hornblende, biotite, chlorite and tolc schists and gneisses. They exhibit a variety of colours and these are the finds f n wells dug in various parts of the district.

The above formations are all of Archaean age. Overlying these in certain places as the lower heights of the Anamalais we have the lateritic deposit; while in the plains the fundamental rocks are capped by regur, that is the black cotton soil interspersed with kankar. Laterite in these places owes its origin to sub-aerial decomposition in situ of the rocks due to a warm, humid and monsoonic climate. Between the laterite cap and the underlying rocks may be noted the transition lithomarge rock—usually called the bole. As this formation has been attributed to sub-aerial mode of genesis, there is no necessity to regard it as belonging to any particular geological age. The dark colour of the black cotton soil is due to organic matter. It is argillaceous, plastic and possesses a wide range in expansibility and contraction during the dry and wet seasons of the year. It is split up by sun cracks. It is a good retainer of water. Its origin requires investigation, though like laterite it might be taken to have been formed in situ from the underlying basic rocks. The kankar deposits seen on the sides of small streams and with the black cotton soil are merely alluvial formations of calcareous nodules, which have been segregated in various centres. Kankar is the chief source of lime in the district.

The minerals of economic importance available in the district are :—

1. *Corundum.*—This is associated with the Sivamalai rocks. Some of the corundum localities are 1. Selangapalayam, 2. Gopichettipalayam, 3. Karutapalayam. The mining of corundum near Karutapalayam has been going on from 1895. Some very large

crystals six to eight inches acro... are ...eported to have been obtained.

2. *Gold.*—The mineral was ...ined in ...he Satya...nangalam and Kollegal Taluks. The localities c...efly a... B...nsi... ..., 2. Hadanatta, 3. Kavudahalli and 4. Porsegaundanp...lava... ...e rocks in which the gold reefs occur are garne...iferou... ...icite schists, or quartz-chlorite schists of Dharw... ...ge.

3. *Steatite.*—(Po... stone). ... quarrie... ...odapapalayam near Bhavani.

4. *Asbestos.*—Outcrops are re... ...l to exi... ...ar Perundurai.

5. *Iron ore* has been found ...he foot o... ...malai and othe... hills in the district.

6. *Quartz* beautifully tr...nspa...ent, ... size and form, amethysts and aqua-marine are reported to o... ...t Kangayam.

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Meteorology of the Coimbatore District

[illegible]y Mr. M. S. Subrahmanyam, B. A. (Hons.)

Coimbatore is one of the meteorological stations of South India, [illegible] the statistics of temperature, humidity and wind-direction have [illegible] be applied to the whole district with cons[illegible] qualifi- [illegible]

There are three main types of regi[illegible] district :—

(1) [illegible]y or plateau region [illegible]th comprising the whole of Kollegal, [illegible] Gobichettipalayam and Bhava[illegible]

(2) Hilly region of the south [illegible]ting of the mountainous parts of Pollachi and Udamalp[illegible] taluks.

(3) Intermediate plain lying betw[illegible]n these two hilly regions. This plain has an average height of about 900 ft. above sea level.

The general slope of the country i[illegible] from west to east. The rivers follow the slope of the country and their valleys are generally climatically different from the rest of the plain because of their depth.

As all the important taluk head-quarters are not provided with the necessary instruments to record the various factors which determine the climate of a country, we have to depend upon the data furnished by the Coimbatore observatory alone.

Temperature. The mean annual temperature (18 yrs.) is 77·6°, which is lower than that of Madras or of the neighbouring districts of Salem, Trichinopoly and Madura. April has the highest monthly average (83·3°), while that of March and May is just over 81°, but even in April the temp. seldom exceeds 100°. December and January are the coolest months with a mean temperature of 73·7°. The lowest temperature observed in recent years was in January 1892 when the mercury fell to 57°,

Pressure. The average pressure of air recorded after reduction to sea-level and constant gravity at latitude 45° is 29·804 inches. The mean pressure is highest in January, and it falls steadily till June when the minimum is reached. It then rises steadily till the end of the year, the mean for December being about the same as that for January.

Prevailing Winds. In January and February the prevailing winds are from the north and north-east and east. These continue into March, but we then begin to get southerly winds and these are still more frequent in April. In May, the direction becomes more westerly, and south and south-west are the prevailing quarters until September when the wind begins to back round to the south and far on to the south-east. By November the north-east mon[illegible] has thorough[illegible] and this continues throughout December.

Velocit[illegible] [illegible] mean velocity, about six and a half miles an hour, [illegible] and July; indeed throughout the whole period of t[illegible] monsoon the force of the wind is strong owing to the [illegible]. The north-east monsoon winds are much lighter, th[illegible] velocity in the last three months of the year being about a mile and a half an hour.

Humidity. The humidity of air at Coimbatore is generally high. It is highest in October, November and December, the mean figures for those months being 83, 91 and 85, saturation being taken as 100. These are markedly higher than the figures for Madras and much higher than those for Madura. The minimum is found in May, in which month the mean percentage is 77.

The mean cloud amount (overcast say, being 10, and clear 0) is highest in August and September and lowest in December and May. Throughout the two monsoons it averages about six, and from January to May about 4.

The Seasons. We can divide the seasons of the year as follows.

(1) Mid. of Dec. to the end of Feb. **the cold weather** (the mean temp. range being 75·2° to 78·8°).

(2) March, April and May, **the hot weather** (temp. 83°, 85·4°, 84·2°).

(3) June to the mid. of Oct.—**South west monsoon period.**

(4) Mid. of Oct. to Mid. of Dec.—**North-East monsoon period.**

These divisions are based on *temperature* and *rainfall.*

Temperature—(a study in detail).

Except for places opposite the palghat gap most of the tracts of the district lie in the leeward side of the mountains, and as such they are comparatively rainless and dry. The south-west monsoon,

which blows during summer, though it does not help the region by giving the benefit of the abundant rains, gives some slight showers and cools the temperature during the period. Such cool dry winds make the heat of the summer bearable.

When the sun passes overhead in April-May during its apparent northern course *Uttarayanam*, summer sets in, and the temperature rises to the maximum for the year of 85·4° in April. Meanwhile the south-west monsoon sets in and it reduces the temperature to 79·2° in July. When the sun passes overhead again in the year during its apparent southern course (Dakshinayanam) temperature rises to 80° in September. After September, the North-east monsoon and winter set in when the temperature falls to 75·2° and 75·4° in the coolest months of December and January. A glance at the temperature curve makes us realise the existence of two maxima corresponding to the overhead positions of the sun during Uttarayanam and Dakshinayanam. *Viz.*, April—May and September. But the maximum corresponding to September is lower because of the tempering effects of the South-West Monsoon. This tempering effect of the South-West Monsoon is very evident in those portions of the plain which lie just opposite to the Palghat gap. During the South-West Monsoon period, cool moist winds, called *Sonai* (சோனை) in the Udamalpet, Pollachi and Dharapuram taluks, blow and make the heat bearable and the climate pleasant.

Rainfall.

The rainfall of the district is scanty when compared with other *neighbouring districts* of the presidency the figures are as follows :—

				inches.
Coimbatore	...	...	...	25·65
Madura	...	...	...	29·52
Salem	...	...	...	31·46
Trichinopoly	...	...	...	34·02
Malabar	...	...	...	114·51

Except Bellary, Anantapur and Tinnevelly, Coimbatore has the lowest rainfall of any district in the Presidency. Being situated in the path of both the monsoons, such a poor rainfall is really an enigma for the casual observer. But a close scrutiny of the map explains it.

Malabar alone has among these districts the full benefit of the South-west Monsoon (114·51 inches). The adjoining area of Coim-

batore has only 25·65 inches of rain in the year, of which the major portion comes from the North-east Monsoon. While Malabar lies directly in the windward side of the Western Ghats, Coimbatore lies on the leeward side, and as such only rainless dry winds blow over this rain-shadow region.

The remaining districts, namely, Madura, Salem and Trichinopoly depend mostly upon the North-East Monsoon for their rains, as they also like Coimbatore are prevented from get[illegible]g any benefit from the south-west monsoon by the We[illegible] Gha[illegible] which shut them off the course of the monsoon. As these districts [illegible]e nearer the east coast they get more rains from the North-east [illegible] than Coimbatore which is so far away inland that it [illegible] ben[illegible]ed to any very large extent even by this monsoon.

In spite of the great drawbacks due [illegible] position the Coimbatore District does get some rains in the year to make up its amount of 25·65 inches. Of this total 5·16 inches fall in April and May (Kar rains), 8·30 inches in the south-west monsoon from June to September and 12·19 inches in the North-eas[illegible] [illegible] from October to March.

There are two rainfall maxima, one corresponding to the south-west Monsoon and another with the North-east Monsoon. Of these the maximum corresponding to the North-east Monsoon is the higher. Statistics of monthly rainfall for each recording station are appended along with average rainfall at the different seasons of the year.

The rainfall is lowest in Dharapuram, and it is also precarious in Palladam. The fall is heaviest in the two mountainous regions of the north and extreme south-west of the district. In the tracts with scanty rainfall, the north-east monsoon brings in from two to four times the quantity of rain received during the other monsoon. Even this scanty rainfall is ill-distributed, as we see from the tables, so that "where the rainfall is great the country is unfit for cultivation and where the country is fit for cultivation the rainfall is poor." Contrast the rainfall of the mountainous parts with that in the plains.

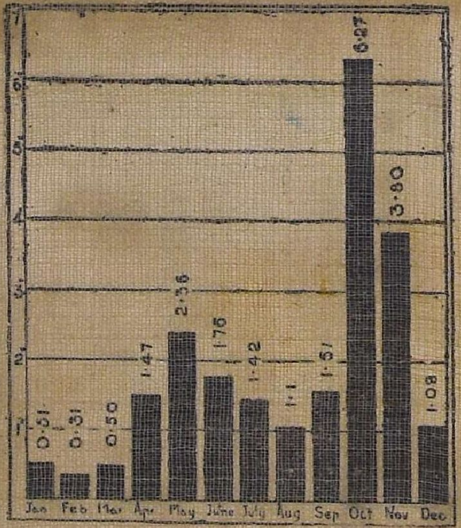

Fig. 1.—Monthly rainfall of Coimbatore.

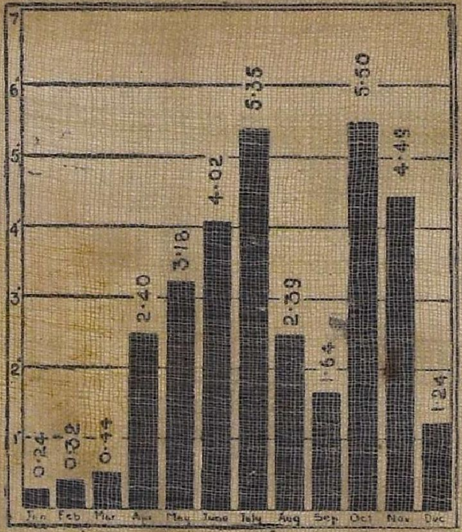

Fig. 2.—Monthly rainfall of Avanashi.

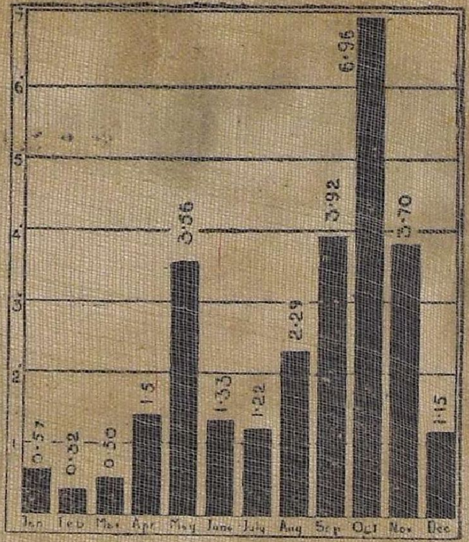

Fig. 3.—Monthly rainfall of Pollachi.

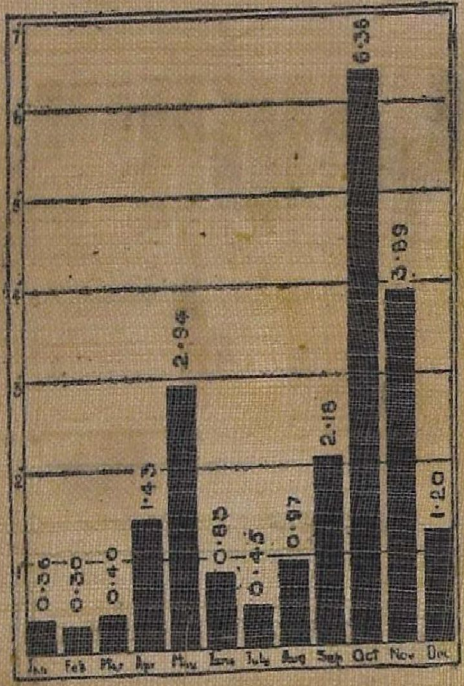

Fig. 4 —Monthly rainfall of Palladam.

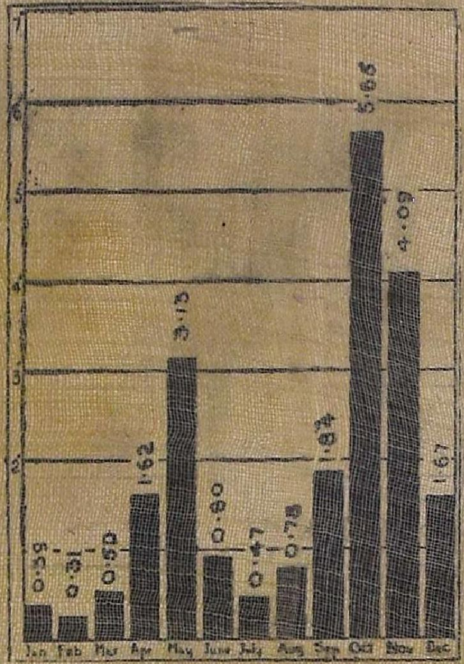

Fig. 5.—Monthly rainfall of Dharapuram.

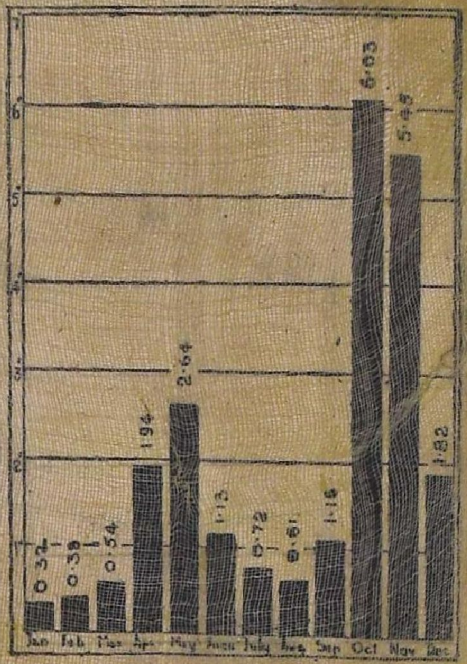

Fig. 6.—Monthly rainfall of Udumalpet.

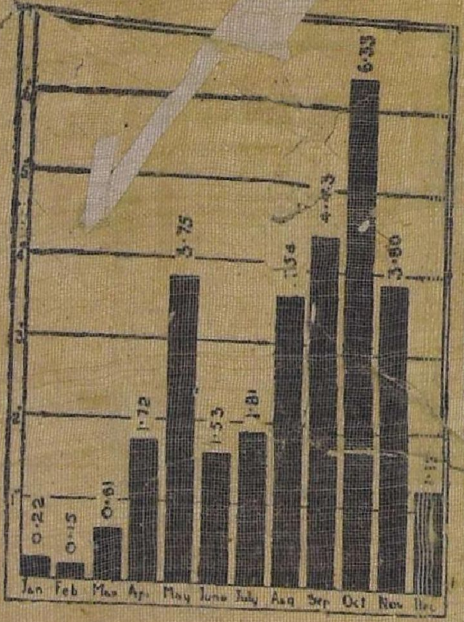

Fig. 7.—Monthly rainfall of Erode.

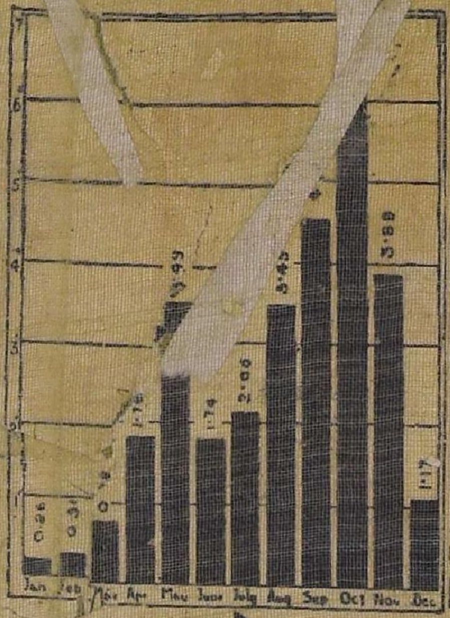

Fig. 8.—Monthly rainfall of Bhavani.

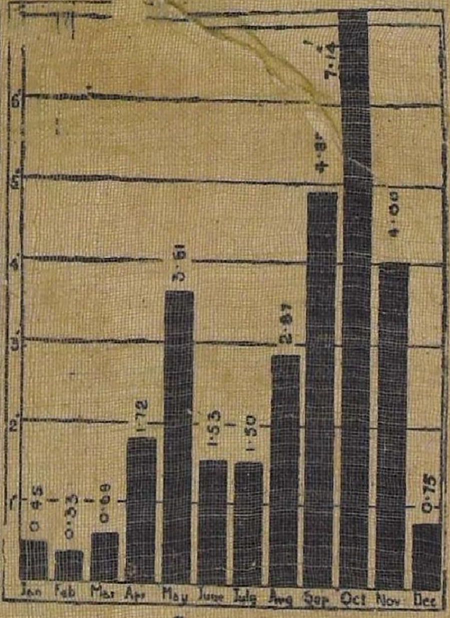

Fig. 9.—Monthly rainfall of Gobichettipalaȳam.

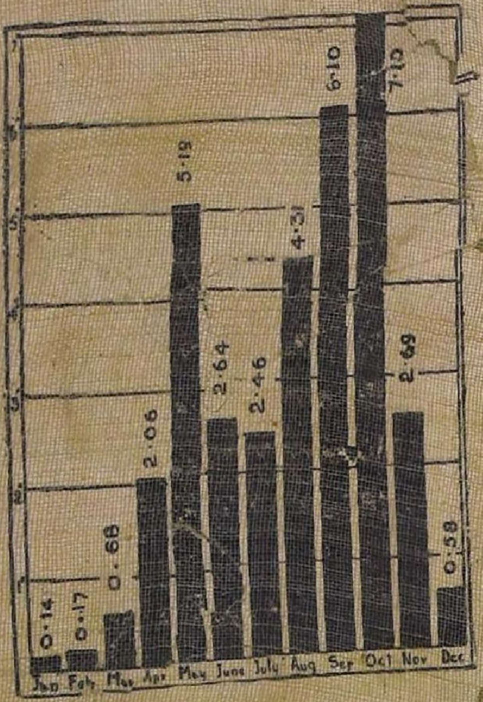

Fig. 10.—Monthly rainfall of Kollegal.

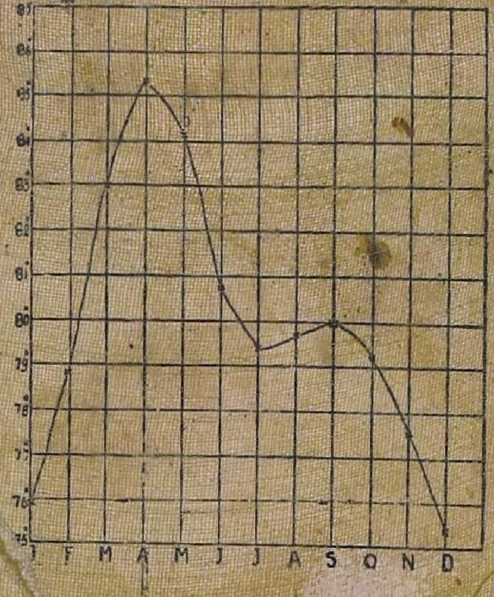

Fig. 11.—Mean monthly temperature of Coimbatore.

Meteorological Statements up to 1920

Month.	Mean Temp.	Mean Range	Highest Temp.	Lowest Temp.
January ...	75.4	22.1	86.4	64.3
February ...	78.8	25.5	91.5	66.0
March ...	83.0	26.2	96.1	69.9
April ...	85.4	23.8	97.3	73.5
May ...	84.2	21.3	94.8	73.5
June ...	80.6	17.5	89.3	71.3
July ...	79.2	16.6	87.5	70.9
August ...	79.5	17.2	88.1	70.8
September ...	80.0	18.3	89.1	70.8
October ...	79.3	17.4	88.0	70.6
November ...	77.4	16.9	85.8	68.9
December ...	75.2	19.0	84.7	65.7
Average ...	79.8	20.2	...	...

Table showing the average distribution of rainfall

Portions.	Taluk.	DRY Weather Jan to March.	HOT Weather April to May	S. West Monsoon June to Sep.	N. East Monsoon Oct. to Dec.	Amount — total inches.
Pollachi ...	Pollachi ...	1.01	5.61	13.49	11.26	31.37
Central plains ...	Coimbatore ...	1.81	4.64	6.34	13.43	26.22
	Palladam ...	1.08	4.01	5.44	11.91	22.44
	Udamalpet ...	1.23	4.58	3.65	13.16	22.62
	Dharapuram ...	1.26	5.06	4.99	11.19	22.50
	Average ...	1.35	4.67	5.11	12.42	23.45
Bhavani and Cauvery valleys..	Avanashi ...	2.00	5.07	7.74	13.15	27.96
	Gobichetti-palayam	1.34	6.13	10.52	11.53	29.[illegible]
	Bhavani ...	1.27	5.32	11.73	11.52	29.8[illegible]
	Erode ...	1.02	4.92	9.59	10.38	[illegible]
	Average ...	1.41	5.36	9.89	11.60	28.26
...	Kollegal ...	1.01	7.22	15.63	10.38	34.24
	Dist. Average ...	1.25	5.24	[illegible]	11.[illegible]0	26.53

...eral Conditions in each Sub-...

...k owing to its elevation an... west ... ...ly ...especially during the Sou... ...nsoon is ...ion ...e co...

sub-tropical. Owing to its elevation and sub-topical climate fever is prevalent and the water is generally bad.

The district proper, namely, the plain to the south of the Ghats receives less rain; but the climate is comparatively cool *except along the low-lying valley of the Cauvery and Bhavani*, where air circulation is poor.

Coimbatore taluk, except the hot corners adjoining the hills, has the advantage of an *extremely pleasant* climate owing to its moderate elevation especially near Coimbatore (1,348 ft.).

Its salubrious climate is due to its position regarding the Palghat gap, through which the south west monsoon pours in, from the end of May and tempers the heat to such an extent as to render the subsequent three months, which would otherwise be hot, very pleasaut though windy. (See temp. graph).

In the *Pollachi* taluk the abundance of trees in the forests of the Anamalais as well as the numerous streams along the fertile bottoms evidence a moist climate and better rainfall. During the south-west monsoon the temperature is pleasant, but the winds blow with violence and persistence. As it is directly opposite to the Palghat gap, the cool breeze from the Arabian Sea is invigorating and healthy. The villages near the foot of the hills are slightly feverish.

In the *Udamalpet* taluk the climate is fairly good and the winds of the south-west monsoon in the western portion of the taluk, though strong, are wholesome and cool.

The climate of *Dharapuram* is tolerably good. Dharapuram lies immediately opposite to the Palghat gap and the wind is furious in June and July.

In *Palladom* the climate is comparatively hot, but not so oppreseive as in the *Bhavani* and the *Cauvery* valleys. The three taluks of Gobichettipalayam, Bhavani, and Erode and the portion of Avanashi taluk forming the river valleys are generally very hot, due to the lack of free air circulation. In the western portion of Erode where the country is elevated the climate is cool and healthy. The climate of Bhavani and Gobichettipalayam is generally feverish especially in the north.

By its position the *Coimbatore* district forms the ... between the west coast and the eastern districts of the ... It ... the extremes of both the adjoining districts ... ely dry climate with a scanty rainfall ... districts, ... at the cost of its agricultural pro... and gains

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The Agricultural Geography of the Coimbatore District

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Had the writer of this paper known that it was at the Agricultural College that the Geographical Conference was to meet he would not have had the temerity to choose for his subject, the *Agricultural* Geography of the Coimbatore District. He has never had any desire to carry coals to Newcastle. He would now try to escape by emphasising the economic aspects of agriculture, touching on the physical and scientific ones only in so far as they were needed to elucidate the economic issues.

The agricultural importance of the Coimbatore District would not seem to need a better advertisement than the very location of the Government Agricultural College and Research Institute for the Province in Coimbatore, but for the fact that neither the agricultural merit of a place nor its geographical situation has always been the decisive factor in the choice of a scientific station in India. The splendid climate of the Coimbatore town—the best place in the plains for the European—and its proximity to the Nilgiris should have had their own share in the selection; but the intrinsic importance of variegated systems of agriculture practised in the district would fully justify the choice.

Papers to our Conference have been already contributed by specialists on the subjects of climate and rainfall, soil, cattle, and people of the district; and if reference is made to these again in this paper, it is only with a view to show how far they help or hinder development of agriculture.

Climate. The climate of Coimbatore is not by itself propitious to agriculture. It is one of the driest districts in the Presidency. Receiving only 26·6 inches by both monsoons in the year, it is only better than the notoriously dry Ceded Districts The rain that falls is not evenly distributed. The taluks of Kollegal and Pollachi and parts of Bhavani, being more hilly and elevated than others,

receive much more than the average rain; but this is a doubtful blessing. They are not agriculturally most prosperous, the villages at the foot of the hills being yet fever-ridden. It is indeed in these taluks that there are any considerable percentages of arable area not taken up for cultivation. Eradication of malaria, in particular, is an essential preliminary to the further spread of cultivation in these tracts. Everywhere else the pressure of population on soil is already so heavy that the wants of the increasing population cannot be met except by an intensification and improvement of cultivation.

The taluks of Udamalpet, Dharapuram, Palladam and Coimbatore get little rain by either of the monsoons and may consequently be expected to be quite dry and unfit for tillage. Most of the district, but for the toil of the sturdy ryot, would have remained pastoral, as by nature it has not been endowed with more than a modicum of moisture. Indeed some of these tracts, as in and around Kangayam, are usually arid and the lands are at best good pasture grounds for cattle. As rains fail in this region for two out of three years, the danger of famine is ever imminent. The frequency of minor famines even in other dry areas of the district has been averted solely by the sinking of wells wherever feasible. The district is dotted with wells, but they are most attended with success in the neighbourhood of gradual hill-slopes.

The actual rainfall, however, is not the best indicator of conditions of moisture in these taluks. The atmosphere is neither hot nor arid in those parts of the district which are elevated or face the Palghat gap. Coimbatore and Dharapuram benefit by the breeze during the South West monsoon; it is not rain-bearing, but it tempers the heat from the end of May and there is a further drop in temperature in the next three months. The breeze becomes more windy in open Dharapuram, but it is absolutely pleasant in sheltered Coimbatore. While this climate is quite bracing for man, it is not quite so congenial to the growth of plants. But for the wells and the work of man, a good portion of Coimbatore would not be the smiling garden land of the South but a treeless arid tract like the Deccan.

Irrigation. There are, on the other hand, important tracts in Erode, Bhavani and Dharapuram taluks irrigated by channels from the Cauveri and its tributaries, the Bhavani and Amaravathi. The

fields here, particularly those under the Kalingarayan Channel, bear two crops and even three per year and sustain a very large population. The atmosphere in these river valleys, while so hospitable to vegetation, is oppressively hot and humid for man to attain his best physical development. Indeed the climatic goad in the former dry region has produced a finer specimen of peasantry that could alone raise the abundance of crops on garden lands under conditions which would deter any other set of agriculturists.

The scope for the extension of well irrigation will be considered later; but, as in every other district, here also there is a hankering after the extension of river irrigation, as being far the easier and the more paying of the two. The agriculturists in parts of the district clamour for a share in the benefits of the Mettur project or the carrying out of a different project from the Bhavani river. We hope that the inexcusably long interval between planning and performance will not be repeated in this case.

Soil. The soil is neither fine nor sufficiently deep over vast areas; but it is not so barren as the extreme dryness of several parts of the district makes it appear. The chemical composition of the soil is not, in general, defective. The red sand and gravel are no good for cereal cultivation, but there are considerable areas of red and black loams which yield a variety of good crops with fair rain and efficient cultivation. Under dry cultivation, which is little expensive, black cotton soil yields a bounteous harvest, while the red loam under garden cultivation and the black loam under river irrigation are remarkably productive.

Forests Aid to Agriculture. Forestry has been called the handmaid of agriculture. There are tangible advantages derived in the shape of supplies of green manure, wood for agricultural implements and fuel for domestic use, liberating cowdung for exclusively manurial use, not to speak of grazing lands in the fringes for cattle. But forests also confer some intangible, but by no means less essential, benefits to agriculture in acting as conservers of rainfall, regulating the flow of rainwater into rivers and tanks and preventing the erosion of soil and all the other havoc that might be wrought by sudden floods.

Forests cover 32 per cent. of the total area of the Coimbatore District, mostly in the outlying regions. This proportion is far higher than that of the average for the Presidency, which is 13 per

cent. and is exceeded only by the District of Nilgiris. There are two broad divisions, north and south, each administered by an Officer; they contain respectively the headwaters of the Bhavani and the Amaravathi, and their proper upkeep is essential if only for the maintenance of the irrigation systems under both rivers. There is a long-standing complaint in the district that on account of the partial destruction of the forests in the Bolampatti valley in the the last century, the tanks and spring channels fed in former times by the Noyil river have been rendered useless.* We hope that the wise policy of conservation followed in recent times will help the tanks in the area once again fructify the lands they command. The open, sandy, treeless waste of the S. E. Udamalpet, due to the reckless felling of trees in the past in the lower ranges of Anamalais ought to be a sufficient warning against any repetition of such destruction in future.

Grazing grounds. Forests particularly in the Barughur and Kollegal areas have splendid grazing grounds in which the Barughur and Kollegal breeds of cattle—cows with calves and breeding bulls—are turned out to feed but without any of the evils attendant on mixed grazing. For the male stock are sold while quite young to ryots in the neighbourhood who find in rearing them as draught cattle a profitable industry. The regulation and improvement in grazing facilities in these areas which indeed supply a large part of the heavy draught cattle in the Tamil districts is best done by the constitution of more Forest Panchayats which may be trusted, in the light of past experience, to prevent overstocking. No doctrinaire views of foresters that all grazing is inimical to forest growth should be allowed to close up this source of maintenance of an important breed of cattle; for, in the words of Mr. Sampson, once of the Madras Agricultural Department, "this [illegible] more importance to the country than the maintenance of heavy timber forests in places which are not readily accessible for extraction."[1] Grass-cutting and stall feeding of cattle may be superior to grazing them in the forests, in the interests of cattle as well as of forests; but persistent propaganda and more experiments in ensilage and preservation of fodder available in forests would seem to be required if th[illegible]ache should

*Srinivasa Ragha[illegible]ngar: Progress of the Madras Presiden[illegible] d[illegible]ng the last forty years.—pp. 4[illegible]

1. Sampson: A [illegible] of Survey of Madras Livestock p. 9.

be given up. Meanwhile stringent forest regulations—however well-meant—cannot but have an adverse effect on the number and quality of the breeds. We hear already of the decline of the Barughur breed noted for swiftness and strength and the Kollega noted for heavy draught. This must be arrested.

The Kangayam breed.—But the breed for which the Coimbatore district has become most famous is the Kangayam, bred in the dry areas of the Dharapuram, Palladam and Erode taluks but chiefly in the Kangayam Division. It might look a little odd that the best cattle-breeding centre is characterised by extreme uncertainty of rainfall. There is indeed just enough of moisture in most years to raise a crop of that excellent grass known as *Kolaikattai pul* (Ponnisetum cenchroides) but insufficient to raise a regular cereal crop. The soil known as *odai jelly, i.e.*, red loam with cunker gravel is not only rich in lime which contributes to sweetness of pasture and promotes formation of bone, but is said to be cool and retentive of moisture. The famous grass has a bulbous root which survives the severest drought and is kept on some lands undisturbed for 20 and 30 years though it is generally rotated with some cereal crops in years of fair rainfall. Preservation of fodder to be utilised in seasons of shortage is a normal practice in the tract. A glaring contrast is afforded in Malabar which with its copious rainfall and surfeit of succulent pasture in one season does not provide against a long period of starvation for its cattle which are stunted for another reason as well, the deficiency of lime in the soil.

Kangayam looks down on communal and mixed grazing, and cattle have been provided private and enclosed grazing grounds on which the famous grass is grown. There are a number of big breeders who weed out cows which do not breed regularly and never sell out young animals unbroken to work. Cattle-breeding and rearing has become a special art in Kangayam in striking contrast to the haphazard and even reckless practices that prevail elsewhere. No wonder the Kangayam bullock is most in demand particularly in black cotton soils of southern districts and garden lands. While it is an excellent worker, it is a very hardy animal and thrives on poor fodder and lasts for 10 to 12 years. It is indeed impossible to carry on garden cultivation with the uncommonly deep wells in the Coimbatore District without these sturdy animals.

There is, however, one defect with the Kangayam breed. The cow is a poor milker *pace* the statements made to the contrary in the old District Manual [1a] and repeated in the revised edition of the Statistical Atlas of the Madras Presidency. If the cows could be made to yield, by selective breeding, more milk, in addition to being breeders of draught animals and thus the whole breed serve the dual purposes of draught and milk, the cattle business would be even more paying. But a caution has been uttered by the Agricultural Commission that " the milking qualities should be encouraged only in so far as these are entirely consistent with the maintenance of the essential qualities which good draught cattle must possess." [2] We hope that in the case of the Kangayam breed the two aims will not be found irreconcilable.

The man behind the plough.—That the man behind the plough is more important than the land is nowhere better illustrated, in India at any rate, than in the Coimbatore District. Encomiums have been showered on the skill and industry, and patience and prudence of the Coimbatore cultivator, particularly on the two important classes who constitute the bulk of the peasant proprietors in the district, the Konga Vellalas and the Kammas. The oft-quoted dictum of Dr. Voelcker that " the Indian ryot, at his best, is quite as good as, and in some respects, superior" to the British farmer and that " he will struggle on patiently and uncomplainingly in the face of difficulties in a way that no one else could" was illustrated by reference to the garden cultivator of Nadiad in Guzerat and of Coimbatore. [3] Mr. (now Sir) F. A. Nicholson who had a first-hand knowledge of the district and later accompanied Dr. Voelcker in his tours in the South made the following observations in his Manual of the Coimbatore District [4] on the efficiency of the ryot in different types of farming :—

> " Defects in the art (of agriculture) are largely the result of unfavourable climate and soil and of want of capital, rather than of practical knowledge.

1a. District Manual of Coimbatore. p. 244.
2. Report of the Royal Commission on Agriculture in India. p. 226.
3. Voelcker : Improvement of Indian Agriculture.
4. Chapter VIII. Agriculture.

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"A full purse will, in the Coimbatore Vellala's hands conquer season and soil.

"His wet-land farming is excellent.

"In garden lands the ryot is passed master of his art and unless it be in his water-lift, it is doubtful if there is anything to teach him.

"Inspection of his cultivation from fallow to reaping will show that all the minutiæ of good cultivation are elaborately attended to.

"Dry land cultivation is not so elaborate but the higher classes of lands are thoroughly well-tilled.........especially when cotton is to be grown."

In the opinion of Nicholson,[5] the Coimbatore ryot did suffer by comparison with the peasant proprietors of Europe, particularly of France, Switzerland, Saxony and Prussia. He had neither the minute and patient industry of the French nor the agricultural knowledge of the educated peasants of other countries mentioned above.

"A striking feature of the Coimbatore rural economy is the want of energy and thrift in dealing with space and time; labour is abundant and during parts of the year when crops are unusual might be usefully applied in making improvements......... Fruit trees such as crowd the European farms......are hardly to be found in Coimbatore."

Nicholson found, however, ample justification for the ryot's inferiority in the continual uncertainties of the season and the effects of past uncertainties due to war and misrule and a tyrannous fiscal system, in the inordinate rates of interest then prevailing and in the limited market for produce. Since the above remarks were made over 40 years back, there has been a considerable improvement in all but the physicial sphere and the new agricultural education which is almost at the doors of the Coimbatore cultivator is an additional factor making for efficiency.

Analysis of crops.—An analysis of the crop figures relating to the Coimbatore District in[6] the recent Season and Crop Report of the Madras Presidency reveals certain interesting features, the most outstanding of which is the great diversity of crops grown

5. Chapter X, Economic Condition. 6. No. 1928—

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there. Some of the crops have achieved a reputation for quality which has not been approached by those of other districts. The relative position of Coimbatore in the Presidency in respect of the more important crops is worth noting.

What strikes us at once is that paddy, the most ubiquitous crop in the Presidency, covers only an insignificant part of the sown area in Coimbatore. It is a little more than 170, 000acres, and the only districts that have each a smaller area are the Ceded Districts and the Nilgiris. The sound agricultural instinct of farmers in Coimbatore has saved them from the all too common error of forcing a paddy crop on a soil and in a climate not propitious to paddy. *Cholam*, on the other hand, occupies five times as much area, which is exceeded only by two other districts, Kurnool and Bellary. It fits in excellently as a rotation crop on black cotton soils and is of inestimable value as a crop for man and beast. The area under *cumbu* though only half of that under *cholam* is the largest in the Presidency. In *ragi* again, which covers 164,000 acres, only three districts have larger areas.

Indeed these dry grains which on all hands are recognised to be more nutritious than rice enter more freely into the dietary of the sturdy peasants of Coimbatore, though there is a deplorable tendency in recent times for the comparatively well-to-do among them to partake, for reasons of prestige, more and more of polished mill rice from Nellore and Tenali, against which much has been said by scientists and doctors like Lt. Col. McCarison.

Money Crop. Chillies grow well in the district, and but for Tinnevelly the largest area under the crop in the Tamil districts is in Coimbatore, (11,000 acres)—with Erode as the big assembling centre. Tobacco is a very paying crop, too and is carefully tended in garden lands on about 30,000 acres. Guntur and Vizagapatam alone have larger areas. Chillies and tobacco are said to thrive on calcareous soil and brackish water found in certain wells. This is attributed to the presence of certain soluble salts; but it may be due also to the well-regulated use of water from wells. It is curious that in the case of tobacco, while the cultivation is in this district, the processing is done in a neighbouring district, and marketing in still another. It is worth while attempting slowly the integration of all the three functions in Coimbatore itself in the interests of cultivators.

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While tobacco and chillies are very paying crops, they are but grown on a few favoured spots ; but the major money crops of the district are cotton and groundnut which occupy roughly 300,000 and 125,000 acres respectively. Bellary alone has a larger area under cotton while half a dozen other districts have more groundnut. In respect of quality, Coimbatore produces much of the finest variety of cotton and also of groundnut. Cambodia cotton, introduced nearly a quarter of century back, is one of the very few long staple Indian cottons and is much sought after by mills spinning 40 counts and more ; and even Lancashire is ready to recognise and purchase it on guarantee of purity. Tiruppur which is in the centre of that cotton area in Coimbatore and commands the Cambodia crop of the neighbouring districts is next to Bombay the biggest long-staple cotton market in India. The district is being fast industrialised and there are already a number of ginning and spinning and weaving mills offering seasonal and permanent work in factories to the agricultural workers who are under-employed or unemployed on land roundabout.

It is perhaps not so well known that though the area under groundnut in Coimbatore is comparatively small, the finest variety of nuts—for which a premium is offered in the trade—is grown in Pollachi taluk. The crop too comes into the market at a season when there is little harvest outside and consequently fetches a good price for the cultivators. This is due to the early outbreak of the S. W. monsoon and early sowing in the taluk.

Scope for Sugarcane. Sugarcane deserves more than a passing notice, though it occupies only 10,000 acres, as in Bellary, Chittoor and Godavari while Vizagapatam has more than three times that area. But there is no district more ideally situated for the cane than Coimbatore which has an excellent soil and all the advantages of a tropical climate and none of the difficulties of drainage experienced by the delta districts. It has been recognised by all that cane reaches its highest development—both in tonnage and sucrose content in Coimbatore ; and it has been specially selected as the best all-India centre for breeding canes, for it is here that they flower and seed freely. It has already vindicated the choice in an ample measure by the supply of canes to North India which has resulted in great gains to the growers.

The insignificantly small area under cane in Southern tropical India—even in tracts with good irrigation facilities—in contrast with the very large area under cane in sub-tropical North India was a puzzle to the Indian Sugar Committee. Mr. Noel Paton, in his *Sugar in India*, points out that the harvesting season in Coimbatore might well be made to extend over ten months with great benefit to the factories while in North Bihar it is impossible to spread it longer than four months.

The impediments to expansion of the area in the South are found to be more economic than physical in character. The cost of cultivation is very high compared with any other crop; but the greatest difficulty is that of the conversion of cane into jaggery or sugar and the disposal of the same. This is to some extent got over in North India by the existence of a number of sugar factories large and small, which absorb the canes grown in the neighbourhood. The Sugar Committee thought that the best incentive to the extension of cane in South India would be the establishment of more sugar mills which would create an easy market for cane.* But no factory, especially in a period of slump as we are passing through, is likely to be set up without an assured supply of canes on a couple of thousand acres in the neighbourhood. To break this vicious circle is by no means easy. But as long as there is a demand for jaggery at prices higher than for sugar, it would be better to set up small power mills on co-operative lines for the crushing of canes and manufacture of jaggery on improved furnaces, as the one set up near the Singanallur Railway Station, a few miles off Coimbatore.

Garden Cultivation Extolled. It is but right that we should dwell at some length on the agricultural speciality of Coimbatore—its garden cultivation, *i.e.*, the raising of crops on lands irrigated with well-water. Its importance has been recognised for over half a century, judged by the remarks left by some of the former administrators of the district. Clogston said that wells were the chief mainstay of the revenue, but they were still more the chief mainstay of the ryot, for they enabled the raising of two and even three certain crops instead of one precarious crop. E. B. Thomas called well-irrigation 'the heart and life of the district' and noted

* Report of Indian Sugar Committee, Ch. X.—pp. 151—8.

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that wells supplemented tank supply and were responsible for the splendid crops of sugarcane. Nicholson who criticised the ryot in no uncertain terms acknowledged that the garden owner " displays an admirable diligence, fervour and care in cultivation. The very qualities which induced the sinking of capital develop the ryot's energy and prudence."* He has ever since pleaded for the extension of well-cultivation by all means possible.

It was left to Dr. Voelckar to go into raptures over the excellence of garden cultivation. Here is what he wrote of it in his famous report :*—

" The finest cultivation I have seen has almost invariably been that carried on by well irrigation. Here it is that the greatest care is given and the greatest economy practised. It is for this land that manure is most saved and from it every weed is plucked away as an intruder ; here every inch is utilised for growing crops—three or four together – and to these the previous water is dealt out, as it were, by measure. For every drop has to be raised by the ryot's labour and that of his bullocks ; and the well has been built by his own money and his own hands. I can suggest nothing in it to improve. English farmers may well join with me and look on in admiration, it should be the aim of every one to extend this method of irrigation in every way possible."*

Mr. Howard in his *Crop Production in India* contrasts the reckless waste of water, with its consequences, physical and economic, in canal irrigated areas with the economy of water and general carefulness in lift-irrigated lands where ' the work is a pattern of neatness and order.'

Special Merits of Garden Cultivation. Apart from being a measure of famine protection as it was originally conceived, there are special merits of garden cultivation which entitle it to a very high rank in the systems of culture practised in the country.

1. Economic holding. The evils of excessive fragmentation and sub division of holdings—characteristics of open field cultivation—are least visible in garden lands. The holdings are compact and hedges all round are commonly found. Crops and cattle are protected, manure is conserved, boundaries are respected.

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* The Manual of the Coimbatore District.

* Improvement of Indian Agriculture,—p. 78. * P. 29.

The proverb "Note the field that is hedged and the cattle that are pastured" indicates the value attached to these live enclosures. The tendency to excessive sub-division is not so great in the garden lands which are generally larger in size than the common run of holdings on wet lands in particular. The greater inconvenience of sub-division would seem to operate as a check. We are even told that the petty peasant, like his *confrere* in France, in his ambition to transmit his farm intact to his successor resorts to some crude methods of birth-control. We cannot, however, produce evidence that will stand any severe cross-examination.

2. **Residence on the Farm.** The garden cultivator almost invariably lives on his farm which is an impossibility in the case of open wet field cultivators with their fragmented holdings. Residence on the farm is quite essential for the cultivation of the more valuable crops which need a good deal of watching. Not merely the crops, but the cattle also receive far greater attention at the hands of their masters.

3. **Care and initiative.** Ploughing, manuring, weeding, etc., receive special attention on garden lands for there is an unceasing attempt to get a good return for the permanent investment in the form of wells and embankments. The cultivator is not bound down by the practices of fellow cultivators and has an opportunity to exercise his initiative and satisfy his ambitions.

4. **Diversity of cropping.** It is therefore natural to find a variety of valuable crops—some of them grown at the same time on different plots in the holding—which is so much unlike the dead monotony of paddy on wet land or of some dry grain or oilseed on dry land. It does not mean a reversion to the self-sufficing farm of old or an indifference to the virtues of specialisation. The staple grains are also grown on garden lands and they yield higher than on wet land proper but they are grown more from the point of view of rotation with some valuable money crops which are the main aim of the cultivator.

Crops like Cambodia cotton, sugar-cane, plantain, chillies, tobacco, betel-vine, turmeric, onions, coriander and other condiments, sweet potatoes and other vegetables, indeed all intensive crops, find special favour on garden lands. Perennial crops like cocoanuts

and fruit trees of various kinds figure on the fringes or in the centre of them, though they are not many in number. This diversity of cropping, with the curing some of the crops involve, keeps the cultivator engaged practically throughout the year. The problem of underemployment does not vex the garden cultivator to any extent. There is besides an effective utilisation of many by-products of the farm by the cattle and poultry which are usual accompaniments of all garden cultivation.

From all points of view therefore it would appear that the extension of well-cultivation would be the best line of agricultural progress in a district which is too thickly populated for its nat[illegible] resources.

Cattle Breeds of Kongunad

By Mr. A. Swaminadha Ayyar, B.A., Editor, Rural India.

Coimbatore is one of the few districts which supplies the draught cattle of South India. It is the breeding and rearing area of two well-known breeds of cattle, namely, Mahadeswara Betta or Alambadi and Kangayam.

Alambadi

[illegible]his breed derives its name from its market Mahadeswara [illegible] Kollegal Taluk, where two cattle fairs are held in Febru[illegible] in October at which cattle of this description are mostly [illegible] for sale. The [illegible] locally known as Botsal or Ca[illegible] Breed, from its [illegible] on [illegible] hills flanking the Cauvery. A mo[illegible] common name by which the breed is known outside the district is " Alambadi" a village on the bank of the Cauvery. Probably the na[illegible] is a corruption of [illegible] meaning cattle bred in the jungles, [illegible] villages. In the markets of Coimbatore the name generally applied to the cattle of the Alambadi type is " Malai Nadu." These cattle are a variety of the larger Mysore cattle "Dodd[illegible]." They are not fast trotters, but are suitable for heavy draught. The chief habitat of this breed of cattle is on the Kankanhalli Taluk of the Bangalore District, and the northern taluks of Coimbatore and Salem Districts, which are divided from Mysore by the river Cauvery. These areas comprise wide expanse of forest lands which provide abundant pastures and extensive roaming ground. The tracts are stony in elevations and have humus in the valleys. The Cauvery flows in these regions on lands which while too deep for purposes of irrigation yet afford cattle a perennial supply of water during the months when the country becomes parched up and thirsty.

Kangayam

This breed is also known by the names of *Konganad, Kongu and Ka[illegible]yam* after the Taluk of Kangayam. These cattle are bred in [illegible] and south-eastern taluks of Coimbatore. There are [illegible] of Kongu cattle, a large and a small one. The

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smaller are more numerous in the Kangayam, Dharapuram, Udumalpet, Pollachi, Palladam and Erode Taluks, while the larger sized variety is to be found in Karur, Aravakurichi and Dindigul taluks. Breeding, however, centres round the Kangayam division of the Dharapuram Taluk. The lighter soils which are usually shallow with uncertain rainfall but sufficient to retain enough moisture for pasture for a considerable time are the most favoured conditions for breeding and rearing. This is usually red loam full of kankar gravel known as "Odai jelli". Such soils are known to be cool and even though shallow are retentive of moisture while the calcarious substratum is excellent for the formation of bone and sweetness of pasture. In the tracts mentioned above the rainfall is distributed throughout the year and is precarious. Cultivation entirely depends upon well irrigation. Cultivation of dry lands is an uncertain factor. But the breeding of cattle is a certain source of income to the ryot.

The Kongu Nadu or Kongu breed should not be confused with the celebrated Kangayam, which are not the common cattle of Kangayam but are the property of large breeders like the Pattagar of Palayakottai and his family, the village munsiff of Kadyur and a few others, who maintain large numbers of cows and bullocks solely for the purpose of breeding as a business. The Pattagar of Palayakottai is the largest breeder and in his herd may be seen the breed in its purest form. The reason is that the Pattagar who is an enlightened breeder selects proper sires and dames. The young stock is carefully reared with the result that they attain the developments scarcely to be met with among cattle of the same breed in other parts of the District. The Pattâgar maintains for the purpose of breeding a considerable area of permanent pasture lands. In his fenced enclosures he manages to separate herds of different ages and sexes, the heifers in one herd, the young bulls in another, the cows in a third and so on. The object is to keep the breed pure by using sires only from his own herd. There is not another landholder in the whole of India who pays so much attention or carries out breeding on such systematic lines as the Pattagar; and Coimbatore is justly proud of the development of animal husbandry on indigenous lines.

Both varieties of the breed, i.e., the large and small ones are strong and active with compact bodies and short well-set legs. In

the larger variety the horns are usually longer and of different shapes to those of the small. They curve outwards and almost complete a circle at the point where they approach the tips and for a distance of three or four inches have a sharp backward curve. The prevailing colour is white. The Pattagar is the breeder of the smaller variety whose usual colour is white. These are medium-sized, standing from twelve to thirteen hands in height and weighing about 500 pounds.

The cows of this breed are fairly good milkers, and are preferred on account of their well-set frame.

If a ryot owns a garden, his cattle are kept in it, the cows alone being kept in the house. If in addition to a garden he also owns dry lands, the cattle are kept on these lands both day and night, particularly if the dry lands happen to be black cotton lands, which are said to be cooling.. The belief among ryots is that red soil is heating for cattle. The cattle get hardened to sun and rain by being kept in open fields like this. As it is not customary to provide them shelter against sun and rain the cattle are protected against winds by screens of bamboo mats and branches of trees which are formed into a pen.

The pens are moved at intervals of one or two days, and in this way the whole field gets manured. Some ryots in Kangayam tracts reserve portions of their holdings for grazing where Kolakotai grass (Pennisetum Cenchroides) is grown. There is also the practice of growing either Cholam or Kambu, chiefly the former, under wells in February and March for fodder. This is called *adar* or closely sown Cholam.

The Cholam is cut before flowering and stored for use during the hot whether. Cholam straw is a favourite fodder of the Coimbatore ryots, not so much Kambu. Paddi and ragi straw is al·o used but not in preference to Cholam straw. The Cholam stacks that dot the black cotton tracts of Udumalpet and all gardens are a familiar sight. The ordinary practice is to grow a cholam crop both for fodder and grain under wells.

In Coimbatore all the agricultural conditions and soils are represented; black cotton soil, red or light soils, well irrigation and

we addy cultivation under rivers and channels. Black cotton soi requires heavy cattle to work them. Red and lighter soils re ire hardy, quick moving cattle. Such soils are not so retentive moisture as black soils and sowing has to be done as quickly as possible. Cultivation under wells where bullock power is used for lifting water requires medium-sized strong well-built bullocks, particularly if the wells are deep: and Coimbatore produces the cattle suited for these varying agricultural conditions.

A Note on the Home Industries of Coimbatore District

By Mr. R. Hari Rao, M.A., L.T.,

A large portion of Coimbatore District is covered with forests lying chiefly in two sections, one in the north and the other in the south, containing much valuable timber. The Medars who live in the villages along the foot of the hills, especially in Pollachi, Mettupalayam, Satyamangalam, and Gobichettipalayam, turn the available bamboo of these forests into mats and baskets.

The chief Home Industry in the district is weaving which is practised chiefly in Coimbatore, Dharapuram, Erode, Bhavani, and Gobichettipalayam Taluks. The fact that cotton is the staple crop of the district accounts for the many ginning facfories, and the spinning and weaving mills which employ a large number of labourers. Besides hand-loom weaving, hand-spinning is common chiefly in Tiruppur and Kangayam as well as many other villages in their neighbourhood. Sericulture is practised exclusively in Kollegal taluk, being an industry peculiar to this district.

Hand Spinning. As a subsidiary industry hand-spinning is carried on largely in Avanashi, Tiruppur and Kangayam. Tiruppur is one of the biggest of the cotton markets in South India and the Karungani variety suitable for spinning is available to the spinners at their very door.

Hand Loom Weaving. Out of a population of 2,219,848 in the district 21,075 persons are engaged in weaving and the processes connected with it. Coimbatore being one of the most important cotton-growing tracts in Southern India, several spinning and weaving mills and a large number of ginning factories have grown in it. But in spite of the existence of a number of weaving mills a large percentage of the population depend upon hand-loom weaving, this industry being next only to agriculture.

The communities employed in it are mainly Devangis, and Kaikolans wlth a few Seda Chettis and Jangama Andis. The chief centres of this industry are Coimbatore, Bhavani, Sennimalai, Sivagiri and Kollegal. Sadis of pure silk with lace designs, of art

silk, and of cheap dyed cotton, rumals of finer counts. fine grey and lace upper cloths, and grey towels and cloths are the chief fabrics woven in these places.

Silk Weaving. Silk-weaving is an important industry in Coimbatore, Kollegal and Dharapuram. Devangis are the class of persons engaged in it. Dyeing of silk with cheap German colors is a local industry at Coimbatore.

Art Silk and Mercerised Yarn Sadis. Cheap sadis, of art-silk in the weft and mercerised yarn in the woof are woven at several centres in the neighbourhood of Coimbatore.

Coarse Colored Fabrics. But the major proportion of looms in the district weave only coarse coloured fabrics, using yarn imported from Madura as well as from the Coimbatore mills.

Rumals and Turban cloth of both cotton and silk are produced at Coimbatore, Satyamangalam, and Malayandipatnam (Udumalpet Taluk).

Khaddar. In and around Tiruppur, spun yarn is woven, 500 looms being engaged in the industry.

Block Printing on grey cloth and on Khaddar is carried on at Tiruppur and Sennimalai by a sect of Kshatriyas.

Seri Culture & Silk-Weaving. Kollegal, situated at an altitude of 2000 to 2500 feet and having a mild climate (75 to 90°) with an average rainfall of about 30 inches, possesses ideal conditions for Sericulture. The light red and black loam soil of the area is very well suited for cultivation of mulberry which is grown here as an irrigated dry crop. Almost every village in the taluk has taken to this industry ; and this is directly traceable to the influence of Mysore State where Sericulture has been developed to a considerable extent. Silk-worm rearing is a subsidiary industry of the agricultural classes such as Sivabhakthas, Gangadikars, Gowdas, Uppaligars etc.

Besides *Carpet-weaving* in Bhavani and *metal industry* in Tiruppur, **other common industries** in the district are the manufacture of jaggery, wool spinning and weaving, cocoanut coir industry, oil pressing etc.

The Mill Industry in Coimbatore

By Mr. C. V. Venkataramana Iyengar, B.A., B.L.,

I am very much obliged to the organisers of this Conference for giving me an opportunity to say a few words regarding the Mill Industry in Coimbatore. My thanks are specially due to the energetic Secretary of the Madras Geographical Association who insisted more than once on my preparing this paper in spite of the fact that I fervently appealed to him to excuse me in view of pressure of work and want of time. It is a well-known fact that Coimbatore is fast becoming a great cotton mill centre in addition to the fact that several varieties of very good cotton are produced in several parts of this District. It seems that for several centuries as it were, the ordinary country cotton called "Uppam" was grown in several taluks of this District, especially in places where the soil is of a black colour and is called "Black cotton soil" or "Erankadu" (எரங்காடு), and curiously enough, we find here one historical fact that Telugu speaking people called "Kammavars" or "Naidus" belonging to a hard-working community of agriculturists, seem to have taken up their residences in places where this black cotton soil existed and developed the cultivation of this cotton. It will be an interesting study of history, as to when, from where, and under what circumstances, these people originaly came to this District, but that does not certainly come within the limits of the present paper. It is enough to say that before the 19th century advanced near its end, cotton was cultivated on a fairly good scale in black cotton soil especially where there were no wells. In those days, cotton was ginned by hand, yarn was spun with Charkas and cloth woven in hand-looms by a very large number of weaving community, speaking Tamil, Telugu, or Canarese in all parts of the District, and it is a well-known fact that in every marriage among Gowndars or Kammavars, a Charka was considered to be a valuable gift to be given to a bride, and even now it has been acknowledged that a very large number of women in this District know how to spin yarn of even high counts. It is but natural that several enterprising people should have thought of starting a mill

in this District and the first attempt was successfully made by two friends, Sir (then Mr.) Robert Stanes and Mr. V. Thiruvenkadasawmi Mudaliar, who may be said to be the originators of the Mill Industry in Coimbatore. Even they thought that they could not run the mill with the help of local people only and it was finally arranged that a company called "The Coimbatore Spinning & Weaving Co. Ltd.," should be started with Messrs. Arbuthnot & Co., as Managing Agents. They had a very strong Directorate and the company was registered with a capital of 6 Lacs and the foundation stone was laid by Mr. J. Sturrok, the then Collector, on 9th November, 1888. The building was on a very small scale and only a spinning mill was put up and it was opened within a period of about 18 months by the same gentleman, Mr. Sturrok. After the failure of Messrs. Arbuthnot & Co., Messrs. T. Stanes & Co. Ltd., who were the local agents, till then, of Messrs. Arbuthnot & Co., became the Managing Agents and continue to be the same till now. The mill itself has advanced very rapidly in its work and besides having a paid-up capital of 14 lacs, it has now got several lacs as reserve fund etc., and just before the Mall Mills was amalgamated with it recently it had about 48000 spindles and 302 looms. The next company was started by the efforts of Dewan Bahadur P. Somasundaram Chettiar of Devacottah, who had before that, been able to improve very successfully the fortunes of the Malabar Spinning and Weaving Co., which was going down a little before he assumed charge over it. It was in 1906 that Mr. Chettiar started the Kaleshwar Mills of Coimbatore, chiefly with the help of the Zamindar of Devacottah and the co-operation of some local leaders. It had had always a paid-up capital of 6½ Lacs of rupees and though its work was originally commenced only as a spinning mill in 1910, it has now got both spinning and weaving machineries and there are at present about 26000 spindles and 294 looms. The company has a large reserve fund and is able to give a high dividend. The third mill which was started in Coimbatore was the Coimbatore Mall Mills. It was the result of purely local attempts and the company was registered in 1908, originally as a weaving mill with Messrs. Ranganatham & Co., as managing agents and the work was started in February 1911. Owing to various reasons, the original managing

agents were not able to run the mill and as all the attempts of the Directors to get some good Indian rich men to arrange for finances required for getting the working capital failed, the managing agency was handed over to Messrs. T. Stanes & Co. Ltd., who continued to be its Managing Agents till a few weeks ago when the company was amalgamated with the Coimbatore Spinning & Weaving Co. It has got about 5000, spindles and 393 looms. After a long lull and as a result of the War stimulation, we had two mills started a few years ago in Peelamedu, about 3 miles from Coimbatore. Both these mills may be said to be due to the enterprise of several Kammavar leaders in Coimbatore and Palladam Taluks. The first mill called ' Sri Ranga Vilas Ginning, Spinning and Weaving Mill," is managed by the enterprising brothers, Messrs. P. S. G. Naidu & Sons, and it has got about 20,000 spindles ; and the other one managed by Messrs. Gurusawmi Naidu & Co., has also got about 20000 spindles. There was then again another lull, though attempts were now and then made, though unsuccessfully, to start new mills at Coimbatore or Tiruppur. And in July 1928 a spinning mill called the Combodia Mill was started and a company was formed with Messrs, Pierce, Leslie & Co., Ltd., as Managing Agents. The work went on very briskly and the actual working of the mill with about 16000 spindles commenced a few weeks ago. And again towards the end of last year, two more mills were started called the Vasanta Mills and the Coimbatore Cotton Mills respectively, each intended to begin work with about 11,000 spindles. Buildings are being constructed and machinery is arriving, so much so, that the work of spinning is expected to begin in both mills before the end of this year, the Cotton Mills, probably, being able to begin work first. Another company called "The Coimbatore Indian Mills Ltd," has been started within the last few weeks, but no building work has yet been commenced and even the site has not yet been selected.

I have given above a brief summary of the various mills in Coimbatore and roughly speaking there are working at present in those mils about 1000 looms and 150,000 spindles with a prospect of about 2,5000 spindles beginning to work in the near future. Taking the areas into consideration, the three big mills mentioned

...se to each other within the Municipal ... got ... advantage of Railway sidings also. The ...ls, ... the ...anga Vilas and Radakrishna are working ... each other ... the village of Peelamedu, and the last three ... located near the village called Singanallur, about 5 miles ... from Coimbatore, and it is not known where the remaining new mill will be located. This idea of having groups of mills in separate places is very good as it would prevent congestion of labour in one and the same place which would be the case if all mills are situated in the locality. I understand that there are also proposals to start one mill at Erode and another at Tiruppur and probably a third will soon be started at Udamalpet also. As for the number of persons working in these mills, workers including those engaged at the preparatory machinery, engines etc., we may roughly calculate at the rate of one worker in average for 40 spindles and one worker for every loom and this means that the total number of workers employed in all these mills may be taken to be about 5000. I do not want to say anything about the wages paid to these workmen. But it is enough to say that the weaver who works at the loom gets a much larger sum than the spinner who works in the spinning factory.

Then I may just say a few words regarding the Managing ...cy about which we have heard recently so much, especially regarding the mills in Bombay. There are two systems under which the Managing Agents work. Under one of these, the Managing Agents are paid from 2 to 3 pies for every pound of yarn manufactured, and from ½ to one pie on every yard of cloth woven. Under the second system the Managing Agents do not get anything on the quantity of yarn spun or on the length of cloth manufactured, but they are allowed a certain percentage (which is generally 10 per cent) on the net income every year, besides a monthly allowance which is generally fixed at Rs. 1000 for expenses; and in both cases the Managing Agents get the remuneration in consideration of all the trouble taken by them in starting the mill and in collecting the shares and arranging always for the working capital, whenever necessary. In Coimbatore, all the older mills are working under the first system while all the mills recently started are working on the second system. Practically all the share-holders and practically all the Directors in all the mills

mentioned above excepting the Coimbatore [illegible]ning [illegible] and [illegible] Co., Ltd., are Indians, while in that one copany, [illegible] with w[illegible] amalgamated the Mall Mills Co., the share capital [illegible] may be [illegible] be equally divided between Europeans and Indians and the[illegible] Indians and 4 Europeans as Directors. To have a rough [illegible] about the cost of putting up new mills, it may be stated t[illegible] roughly speaking, a completed mill costs Rs. 100 for each spindle, including site, building, engine and prepatory machinery, while the cost of erecting a weaving mill may be taken as Rs. 150[illegible] in all for every loom working in the mill including site, building, etc.

In addition to the various cotton mills referred to above, there is a very large number of ginning factories and a few cotton presses scattered throughout the District. But it is very difficult to give their number correctly as most of them belong to private individuals, and there is no public records from which we can get the correct number easily.

Though I have begun this paper with a reference to the cultivation of the Uppam plant in the last century, I must now mention that during the last two or three decades, efforts have been made seriously and successfully, especially with the help of the Agricultural Department of the Government of Madras, to raise Karunganni and Combodia plants. The Uppam is a short stapled and un-irrigated crop while Combodia is irrigated and long stapled and Karunganni comes between the two sorts in both matters. It is a matter for congratulation that the ryots in this District are now able to raise a very large quantity of valuable Combodia cotton as the rainfall is suitable, being not very heavy and the lands are suitable possessing wells. The cotton industry on the whole may be said to be taking a deep root in this District and there is no doubt whatever that it will improve very much in the days to come. The industry has got in its favour several advantages in this District. Some of them are :— a good cotton supply of various varieties fit for spinning different counts of yarn ; a good supply of hard-working, intelligent and experienced spinners and weavers ready to work at reasonable wages ; a large weaving population available in all parts of the District for using the yarn produced ; and a mild damp climate which is useful for manufacturing both yarn and cloth. I have no doubt whatever that when the present economical and seasonal difficulties that have troubled this District during the last

decade are over, there will be a rapid increase in the mill industry of this District.

In view of a large number of papers arranged to be read at this conference and the consequent shortness of time that might be allotted to every paper, I have decided not to say anything further regarding this important industry. I have only dealt above with some main features connected with the mill industry in this District which I hope will be of some use to those who are not directly connected with it. There are several important questions such as the reasons for losses and gains, the expert knowledge required for "mixing" in the spinning factory and "sizing" in the weaving factory, the co-operation of Capital and Labour and the steps to enable the worker to have a definite share in the capital and profits of every company; but certainly this is not the occasion for dealing with those difficult problems and therefore I beg to be excused for bringing this short paper to a close.

The Population of Coimbatore.

By Mr. S. S. Krishnaswami B. A.. L. T,

1. Distribution of Population :—The population of Coimbatore District according to the census of 1921 was 2,219,848 as against 2116,564 in 1911 showing an advance of 4'9 per cent over that of 1911. From the subjoined statement we learn that the density of the district is 307 persons per square mile, which falls below the Presidency average of 322. The district stands seventeenth in the presidency with reference to density.

Statement Showing the Area, Population, Variation and Density of Each Taluk

Taluk.	Area in Square miles.	Number of		Population. 1921.	Population. 1911.	% of Variation.		Number of persons per square mile in 1921.
		Towns	Villages.			1911 21	1901-11	
Avanashi	488	1	70	186.993	167,872	+11'4	+ 9'5	385
Bhavani	715	1	66	181.212	162,388	+11'6	+11'2	253
Coimbatore	520	2	87	271,379	261.494	+ 3'8	+ 7'6	522
Dharapuram	853	1	85	284,841	281,731	+ 1'1	+ 3'9	334
Erode	598	1	207	312,629	289,689	+ 7'9	+ 5'2	523
Gobichetti-palayam	1,124	1	143	244 556	228,567	+ 7'0	+ 8'3	218
Kollegal	1,076	1	84	95,356	98,439	— 3'1	— 0.9	89
Palladam	593	2	102	267,444	288,520	+ 3'5	+ 7'4	451
Pollachi	692	2	164	224.122	208,080	+ 7'7	10'1	324
Udumalpet	566	1	88	151,316	159,804	— 5'3	6'2	267
District	7,215	13	1.096	2,219,848	2,116,584	+ 4'9	609	307

Within the district itself the density varies from 89 in Kollegal to 523 in the Erode Taluk and to 522 in the Coimbatore Taluk where a large town population is included.

2. Reasons for the Distribution of Population :—The relatively light density of population in the district is due to various geographical factors. If we look at the physical map we find the district falls naturally into three main divisions, The northern part is a mountainous region which forms part of the Mysore Plateau, and comprises the whole of Kollegal Taluk and portions of Gobichettipalayam and Bhavani Taluks. So also the southern part of the District is a mountainous region covered with valuable forests and pasture lands. Parts of Udumalpet and Pollachi Taluks occupy this region.

B[illegible] two [illegible] mo[illegible]s and forested regions lies the lad[illegible] areas of the D[illegible]rict. Th[illegible] plain is a gently undulating with [illegible] average elevation of 900 feet above the sea, and is traversed by three of the tributaries of the Cauvery the Bhavani, the Noyil and the Amaravati. As it lies in the rain shadow of the Western Ghats, it gets very little rain during the south-west monsoon; and though open towards the east, it is situated at too great a distance from the east coast to admit of its receiving the full benefit of the North-East monsoon. The average annual rainfall of the district is consequently below 30 inches. Further, the soil is poor, though there are patches of black-cotton soil here and there. This region comprises the greater part of the district.

As a whole the District is not densely populated because large areas are mountainous and covered with forests, while its soil is poor and the rainfall scanty. Some parts near the hills are unhealthy for human habitation.

It is very interesting indeed to study the causes for the variation in the density of population in different Taluks of the District.

Statement Showing the Density of each Taluk

Taluk.	Number of persons to the square mile.
Avanashi	385
Bhavani	253
Coimbatore	522
Dharapuram	334
Erode	523
Gobichettipalayam	218
Kollegal	89
Palladam	451
Pollachi	324
Udumalpet	267
Total.	306

The Erode Taluk is the most densely populated in the district; and there are special reasons to account for it. The river Cauvery forms its north-eastern and eastern boundary, while the Bhavani and the Noyil flow through it. Though on the whole the soil is very poor there are fine wet lands under the Kalingarayan Channel

and garden lands in several places. This taluk has good facilities for irrigation which is carried on three ways:—(1) direct from channels (2) tanks fed by channels and (3) from tanks supplied by rainfed surface or jungle streams. Many wells are used for irrigation. Moreover, the taluk is well-provided with roads that traverse it in all directions.

The Coimbatore Taluk comes next in density, due to the following reasons. The Noyil yields its water by anicuts to the channels and tanks which enrich the neighbourhood of Coimbatore. There are considerable tracts of rich black-cotton soil around Coimbatore and red loam is more abundant in this than in most other taluks, and wet cultivation is excellent here. Further the climate is very pleasant. Coimbatore being the head-quarters of the district and an industrial centre with a large urban population he higher density is also due to that cause.

The four Taluks of Palladam, Avanashi, Dharapuram, and Pollachi have 451, 385, 334 and 324 persons per square mile respectivelly. These taluks are in the plain with a dreary climate more or less hot and rainless, and have poor irrigation facilities. In Dharapuram there are some pastures. Pollachi is under the shadow of the Anaimalais and though the soils are fairly good especially near the hills and rainfall rather higher than in the other taluks, the population is not dense because the southern part is covered with forests and the villages near the hills are feverish. Moreover, roads are few.

Kollegal, Gobichettipalayam, Bhavani and Udumalpet are the sparsely populated Taluks of the District. The whole of Kollegal and portions of Gobichettipalayam and Bhavani are mountainous and covered with forests. The density of Kollegal Taluk is 89. For though the soils are generally good and the rainfall considerable, fever is prevalent. Moreover, the Taluk is ill-provided with roads. The southernmost taluk of the district, Udumalpet is largely a hilly tract covered with forests. The soil is very poor for cultivation, and the land is used mostly as grazing ground. Hence, this taluk is also very sparsely populated.

3. Urban and Rural Population. There are 1,096 villages in this district containing 2,014, 724 people out of a total population of 2, 219, 849; that is 91% live in villages, as against the presidency

average of 87%. So we can say that Coimbatore is more rural than many other districts of the Presidency.

Statement showing the Population of each Town.

Rank.	Town	Population. 1921	1911	Variation.	Percent of Variation.
	The whole District.	2,219,849	2,116,564	+103285	+ 4·9
	Avanashi Taluk.				
VII	Sikkadasampalayam.	11,118			
	Bhavani Taluk.				
XIII	Bhavani.	5,536	8,716	—3180	—37
	Coimbatore Taluk.				
I	Coimbatore.	65,788	47,007	+18781	+39
X	Kurichi.	9,703			
	Dharapuram Taluk.				
III	Dharapuram.	16,124	17,926	—1802	—11
	Erode Taluk.				
II	Erode.	22,911	16,701	+6210	+ 37·2
	Gobichettipalayam Tk.				
IV	Gobichettipalayam.	14,102	10,163	+3939	+ 38·7
	Kollegal Taluk.				
V	Kollegal.	13,266	12,566	+ 700	+ 5·6
	Palladam Taluk.				
XII	Palladam.	6,506	6,895	—389	—5·7
VIII	Tirupur.	10,851	9,429	+1422	+ 15·1
	Pollachi Taluk.				
VI	Pollachi.	11,875	10,909	+ 966	+ 9
XI	Kottur.	7,108	18,801	—11693	—62·2
	Udumalpet Taluk.				
IX	Udumalpet.	10,236	10.445	—209	—2·1

The district contains 13 towns, of which Coimbatore alone is of any size. Since 1911 its population has increased by 39 per cent, which is eight times the rate of increase of population in the district. Erode and Gobichettipalayam show remarkable increase in number of population. Bhavani Dharapuram, Palladam and Udumalpet are gradually losing their importance, as is shown from their decreasing population. The total urban population is 205,124 or 9% of the total population, while the proportion for the whole presidency, excluding the Agency Tracts, is 12.4 per cent.

4. A special study of the big towns which dominate the area:—The first town we think of is Coimbatore. It is a town of importance and antiquity. Commanding the approach to Palghat on the west and to the Gazzalhatti pass on the north, it was formerly of great strategical importance.

The town lies, 1,348 feet above sea-level. Its streets are wide and has natural drainage and abundant water supply. It is better situated for the residence of Europeans than most of the towns of the Presidency. The town is also the centre of considerable

trade; and the coffee works, tanneries, cottonmills and oilpresses give it an industrial character. Its population in 1921 was 65,788.

Erode is the second important town of the district. Its population in 1921 was 22,911, being about a third of that of Coimbatore. It is on the north-east border of the district, close to the Cauvery. It is a municipal town of considerable importance. In Hyder's time it was in a flourishing condition. It has immense trade in raw produce, salt, clothes and cotton.

Dharapuram on the left bank of the river Amaravati is a large well-built town with good streets and fair trade in country produce. A weekly market is held on every Tuesday when cattle are also brought in for sale.

Pollachi (population 11.875) lies on the high way of trade from the west to the east coast. Its position made it from olden times a meeting place for eastern and western produce. In the year 1800 a pot was dug up here containing a great many Roman silver coins. In the vicinity of the village are a number of Dolmens and rude stone circles. These are termed by the people 'Mandaver kuli' or graves of the dead containing fragments of human skulls and bones.

Palladam (population 6,506) lies near large tracts of black cotton soil. It has a ruined fort and possesses two cotton-presses.

A great deal of cotton is despatched from Tiruppur, another growing town in the Palladam Taluk, which now possesses a number of cotton presses.

Kollegal (populations 13,266) is the chief seat of manufacture of gold-coloured cloths, turbans and kerchiefs. Kollegal signifies plundered town, which appellation was bestowed upon it after it had been pillaged, while under the dominion of Gangaraya.

Gobichettipalayam and Udamalpet are the centres of considerable trade while Bhavani is important by reason of its sacred position that attracts a large number of pilgrims from Palghat. There is a well sculptured temple, and a ruined fort in the latter place and good cotton cloths and carpets are made here.

5. The Languages of the District. The predominant language of the District is Tamil. About 64·6% of the population are Tamilians. Telugu-speaking people are, however, found throughout the district, and they form 22·3% of the population; but in no taluk is it the predominant language. It is the mother-tongue of nearly

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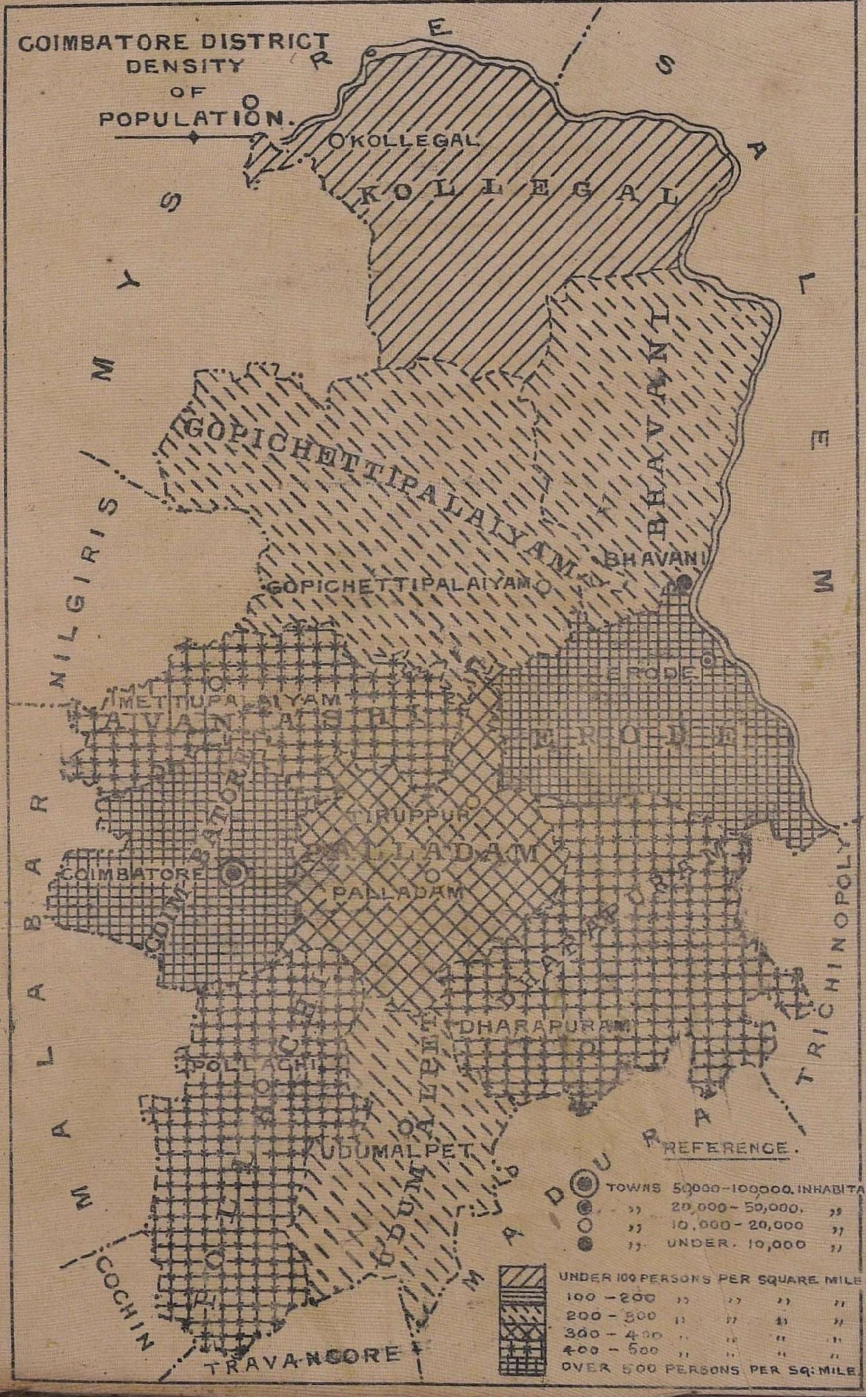
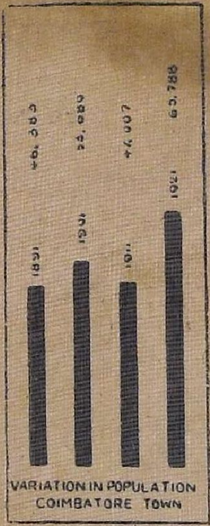


COIMBATORE DISTRICT DENSITY OF POPULATION.

Fig. 12.



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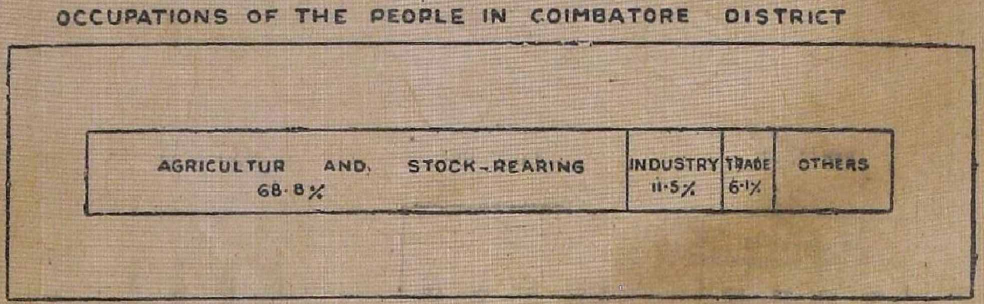

Fig. 17.

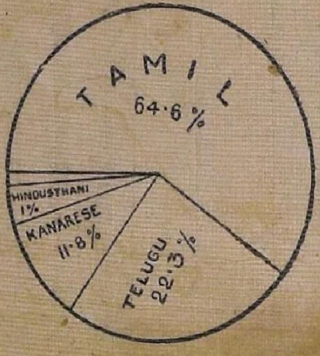

Fig. 18.—Languages of Coimbatore District.

Fig. 19.—Distribution of religions in Coimbatore District.

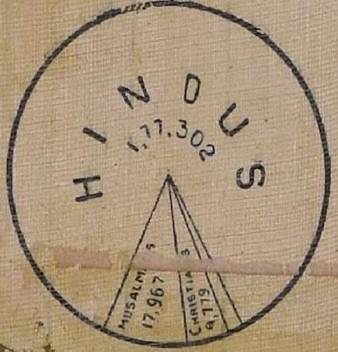

Fig. 20.—Distribution of religions in urban areas of Coimbatore Dt.

all Kammas, Chakkilians, Balijas and Vadugans and of many of the Chettis. Kanarese is the mother-tongue of nearly 11·8% of the entire population, and it is the chief language in the northern part of the district, especially in the taluks of Kollegal, Bhavani and Gobichettipalayam. This is due to the proximity to the Mysore State. There are some Malayalam and Mahratta speaking people in Coimbatore taluk. One in hundred speaks Hindusthani in the district; and it is spoken for the most part by Musalmans.

6. **Distribution of Religions**. The people of Coimbatore are almost wholly Hindus, who form no less than 96·6 per cent of the population as against 88·7% for the whole presidency. A higher proportion is found only in Vizagapatam and Godavari districts.

Towns with Population and Religion

Town.	Total population.	Hindus.	Musalmans.	Christians.	Others.	Percentage on total population.			
						Hindus.	Musalmans.	Christians.	Others.
Coimbatore	65,788	56,204	4,152	5,391		85·5	6·3	8·2	
Erode	22,911	19,543	2,452	916		85·3	10·7	4	
Dharapuram	16,124	13,313	2,438	373		82·6	15·1	2·3	
Gobichettipal	14,102	13.561	540	1		96·2	3·8		
Kollegal	13,266	12.141	789	336		91·6	5·9	2·5	
Pollachi	11,875	10,697	957	217		90·1	8·1	1·8	
Sikkadasam-palayam	11,118	9,559	1,283	276		86·0	11·5	2·5	
Tiruppur	10,851	8,637	1,875	329	10	79·6	17·3	3	·1
Udumalpet	10,236	8,457	1,628	140	11	82·6	15·9	1·4	·1
Kuruchchi	9,703	7,307	820	1,566	10	75·3	8·5	16·1	·1
Kottur	7,108	6,502	597	9		91·5	8·4	·1	
Palladam	6,506	6,102	260	144		93·8	4	2·2	
Bhavani	5,536	5,279	176	81		95·4	3·2	1·4	
Total.	205,124	177,302	717,96[illegible]	9,779		87·3	9	3·5	·3

Statement showing the Religions of the Population

Taluk	Hindus	Musalmans	Christians	Others
Avanashi	182,461	3,778	750	4
Bhavani	175,914	1,547	3,751	—
Coimbatore	257,543	5,878	7,898	60
Dharapuram	277,123	6,065	1,653	—
Erode	304,059	5,368	3,201	1
Gobichettipalayam	236,850	4.535	3,162	9
Kollegal	90,767	3,743	846	—
Palladam	259,707	4,195	3,531	14
Pollachi	215,902	5,310	2,896	10
Udamalpet	145,070	5,615	620	11
Total	2,145,397	46,034	28,308	109

Musalmans form 2.07 per cent of the population as against 6.7 per cent for the whole Presidency. The proportion of Christians is under one per cent, the corresponding proportion for the presidency being 3.2 per cent.

No marked divergencies are presented by the proportion in the various taluks, Musalman population is comparatively greater in Dharapuram, Coimbatore, Udumalpet and Erode taluks than in others and Christians dwell in large numbers in Coimbatore and Bhavani taluks.

Though the Musalmans constitute 2.07 per cent of the total population, they form 8.76 per cent of the urban population. The difference is even greater in the case of the Christians. Of the Hindus only 8 per cent are town-dwellers. But of Musslmans and Christans the proportion is 9 per cent and 15 per cent respectively. The partiality of Mussalmans and Christians for townlife is found throughout the presidency,

7. **Education.**—Compared with several other districts of the presidency this district is backward in point of education. Judged from the proportion of pupils under instruction to the population of school going age only 13.6 per cent of the males and 1.7 per cent of the females are literate against the presidency average of 10.5 per cent and 2.1 per cent respectively. In poin of Education this district ranks as eighth in respect of both males and females.

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Statement showing the Occupations of the People

Occupation.	Population supported by the occupation.	Percentage to the district population.
Pastoral and agricultural	1,526,191	68·8
Fishing and hunting	4,121	0·2
Industrial	255,454	11·5
Transport	18.139	0·8
Trade	136,452	6·1
Public force	8,016	0·4
Public administration	14,420	0·6
Professions and liberal arts	27,908	1·3
Independent	2,253	0·1
Domestic service	5,826	0·3
Indefinite	215,803	9·7
Unproductive	5,265	0·2
Total	2,219,848	100

Occupations. The pastoral and agricultural class numbers 1,56,191 and forms 68.8 per cent of the total population. The presidency average is 72 per cent. Thus it presents a marked contrast to the adjoining districts of Salem, Trichinopoly and Madura. The proportion dependent on industrial employments, on the other hand, is the largest in the presidency except Malabar and the Banganpalle state. In this respect it differs from the adjoining districts. The commercial class forms only 6.1 percent of the population.

9. **Industries.** There are about 17,899 looms in the district. In some villages of the Erode, Palladam and Coimbatore taluks check cloths are manufactured owing to their demand in other parts of the presidency. Kangayam is the centre of palmyra producing country. It is believed that a large quantity of palmyra fibre for cordage for ships was formerly supplied from this place. The collection of "Avaram" bark and of bones is also of some importance in this district. In the Coimbatore taluk there are two spinning and two weaving mills, a tile factory, a factory for cotton pressing a bone crushing mill, three factories for curing and roasting coffee, two oilmills, two tanneries, a factory for crushing imported chemical manure and a distillery for manufacturing country spirits. There is one factory for cotton-pressing in the Erode taluk and three in the Palladam taluk, besides 23 ginning factories. There are also 14 refineries in the district for refining saltpetre. There is an industrial school for cabinet making at Coimbatore. Silk industry is carried on to some extent in the Kollegal taluk.

Communication-Lines and Town-Sites of Coimbatore.

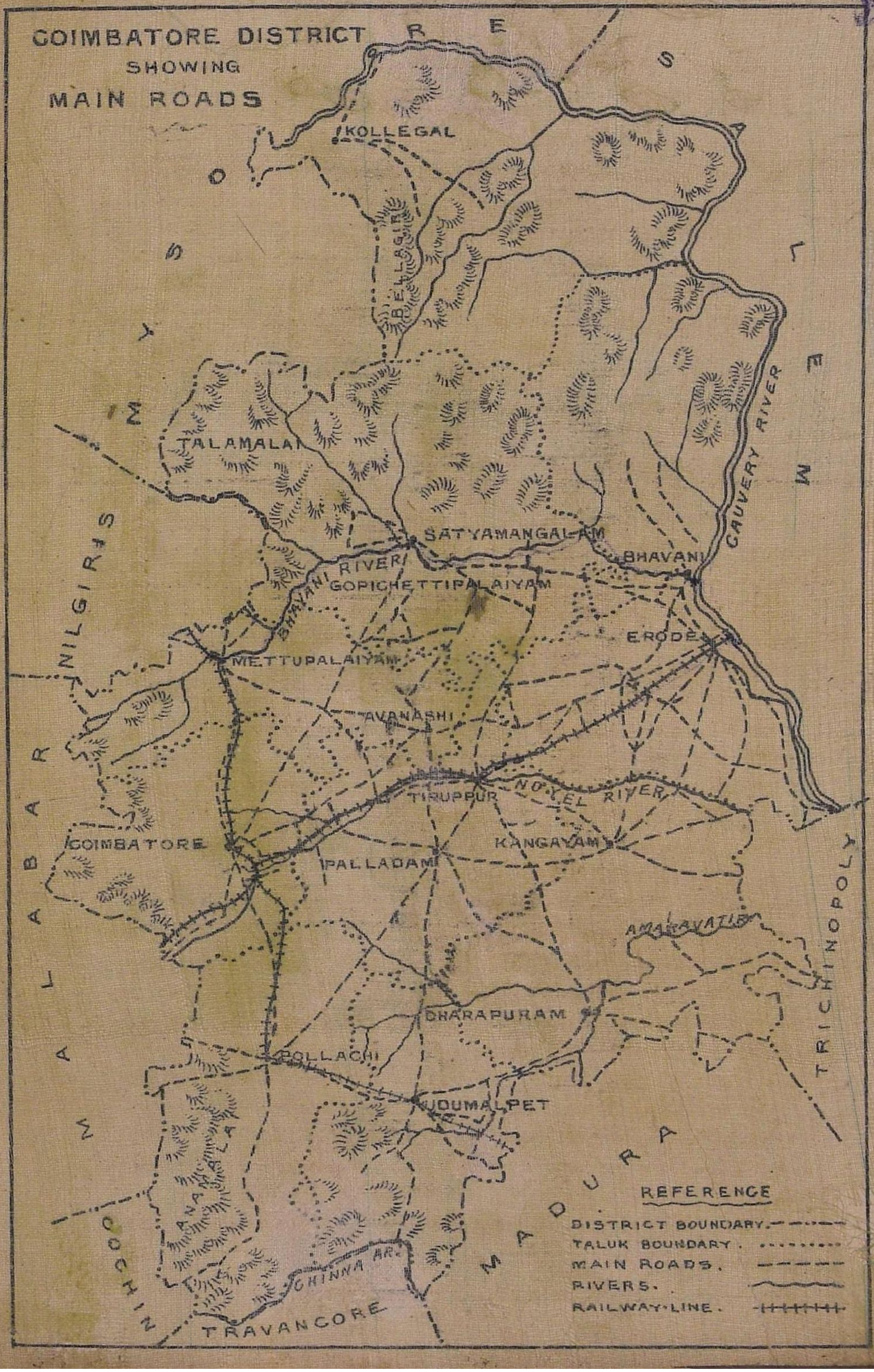
By Mr. N. Subrahmanyam, M.A., L.T.

It is proposed to consider in this short paper the main communication-lines and the location of the chief towns along them in the District of Coimbatore, and attempt to lay down a few general principles or find illustrations for established principles, rather than to deal with all the communications and towns exhaustively on the fact side.

An examination of the roads in the district map presents at first sight a remarkable net-work radiating from the chief towns the like of which we do not find in any other district in the Presidency. It resembles the net-work of railways that we find in an industrial country like England; but we know that Coimbatore is not even highly agricultural. How then is this unique road-pattern to be explained? Is there any order and plan in this pattern, and any underlying reasons therefor? Again, why should there be in this district alone such an unusually large number (12) of nodal towns, from each of which radiate at least five metalled motor roads?

The District of Coimbatore (excluding the mountainous regions of the north and the south) comprises but a part of the old Kongunadu, which was nothing else from a regional point of view but the middle basin of the Cauvery, being bounded by the Eastern Ghats and Nilgiris with its outliers in the north and the west, by the Shervaroys and the Kollimalais in the east and the Anamalais and the Palni Hills in the south. The plain portion of Coimbatore consists of the greater part of this region, and is bounded by the Cauvery on the east.

The central position of this middle basin of the Cauvery between the eastern and the western coastal regions on the one hand and the Mysore plateau and the lowlands on the other, providing the main highways between them, affords a partial answer to the questions raised above. But the funnel-shaped configuration of the Coimbatore plains, wide in the east (between the Eastern Ghats in


COIMBATORE DISTRICT
SHOWING
MAIN ROADS
KOLLEGAL
BELLAGIRI
TALAMALAI
SATYAMANGALAM
BHAVANI
BHAVANI RIVER
GOPICHETTIPALAIYAM
CAUVERY RIVER
ERODE
METTUPALAIYAM
AVANASHI
TIRUPPUR
NOYEL RIVER
KANGAYAM
COIMBATORE
PALLADAM
AMARAVATI R.
DHARAPURAM
POLLACHI
UDUMALPET
ANAMALA
CHINNA AR.
TRAVANCORE
COCHIN
MADURA
TRICHINOPOLY
SALEM
MYSORE
NILGIRIS
MALABAR
REFERENCE
DISTRICT BOUNDARY.
TALUK BOUNDARY.
MAIN ROADS.
RIVERS.
RAILWAY-LINE.

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the north and the Palni Hills in the south) and narrowing towards the Nilgiris and the Anamalais in the west, together with the fact that these plains are gently undulating, affords a fuller explanation. Let us examine this in some detail on map 7.

Four lines of communication—from the north (Mysore), from the north-east (Salem and North Arcot), from the east (Trichinopoly and Tanjore) and from the south-east (Madura and Ramnad)—converge across the district meeting at Coimbatore and Pollachi within it, and finally unite at Palghat, wherefrom they radiate again northwards, southwards and westwards in Malabar and Cochin. The converging railway-lines from Erode and Dindigal to Podanur and Pollachi meet at Palghat give as it were a diagrammatic or schematic representation of two out of the four routes mentioned above, the north-eastern and the south-eastern. But we shall go back to the roads, which are recovering their traffic, at least a considerable part of the passenger traffic, as we are ceasing to think of quick travel in terms of railways alone in this rubber and petrol age.

The Madras Trunk Road crosses by two masonry bridges the Cauvery and the Bhavani, and passing through Perundurai and Avanashi to Coimbatore, is continued to Palghat and beyond. Erode and Tiruppur are not on the trunk road, but are connected with it by other roads. This is the line of communication from the north-east.

The road from Madura turns westwards at Dindigal, and passing by Palni and Udumalpet to Pollachi is continued to Palghat. This is the south-eastern line of communication, connecting Madura and Ramnad with the West Coast.

From the lower Cauvery valley, the route across the district bifurcates from Karur, reaching Coimbatore and Pollachi—the two nodes of the Palghat Gap. The northern road, which passes through Kangayam and Palladam to Coimbatore, is interesting as following the line of the low divide between the Noyil and the Amaravati basins. At Kangayam it branches off and runs through Tiruppur and Avanashi to Mettupalayam, thus affording a direct communication between the Nilgiris and the lower Cauvery valley.

The southern route from Karur passes through Dharapuram and Udumalpet to Pollachi and Palghat. This route is remarkable as the line of migration of the Tanjore Brahmin who has [illegible] up the Cauvery and Amaravati valleys to Pollachi and Palghat

and thence to Cochin and Calicut. He has similarly crept up the Bhavani valley also

Another convergence of routes from Palghat and Coimbatore in the west and from Karur, Erode and Bhavani in the east can be traced to Satyamangalam on the Bhavani. Behind it lie the Gazzalhatti and the Hassanur passes, which together with the Bargur and Kaveripuram passes further east have been the routes by which the Canarese culture and civilisation of the Mysore plateau has crept down the hills along with the immigrants. In the wars of the 18th century, Satyamangalam was of great strategic importance; and Coimbatore as commanding this route as well as the entry into Malabar was of equal strategic importance to Tippu Sultan.

Next, let me take some of the important town-sites in the district for consideration. We find here certain obvious principles of urban developmet illustrated in a very striking manner. As communications play such an important part in this district, it is interesting to find here a very large number of nodal towns, where several roads cross. If not the origin, at least the growth of several of these have been due to this cause. Dharapuram Udumalpet, Pollachi, Kangayam, Palladam, Avanashi etc. are all examples of such a nodal towns. Location on the highroad of commerce between a productive region like the Cauvery Valley and the west coast with its overseas trade accounts for the commercial importance of Pollachi from the Roman times.

Where roads cross rivers, whether big or small, towns have grown up or grown in importance; e. g., Mettupalayam Satyamangalam, Bhavani, Tiruppur and Dharapuram. Sanctity of the river by itself has been also responsible for the importance of places like Erode, where there is a bend of the Cauvery, Bhavani where there is the confluence of the Bhavani and the Cauvery with the temple of the Lord of Confluence (Sangameswara) at the spot, or like Dharapuram, where the river flows with a northerly course (Uttaravahini).

The mountainous nature of the northern part of the district explains the paucity of roads and towns in the greater part of Gobi, Bhavani and Kollegal Taluks. For the same reason, Kollegal, which is very near the Cauvery on the Mysore frontier is only accessible easily from Mysore, and is partially cut off from

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the rest of the district. It is in fact interesting to note that Kollegal and Bhavani, the headquarters of the two taluks, which lie back to back as it were both on or near the Cauvery are farthest apart in the corners of the respective taluks, where the country is comparatively level.

The influence of the railway is easily seen at Podanur, Tiruppur and Erode: the first and last as junctions, and Tiruppur as a cotton centre in the black soil region. The grazing grounds of northern Dharapuram, with little rainfall, almost treeless, with few streams crossing it being a region of divide between two basins, have made Kangayam famous as a cattle centre. The 1000 feet contour shows Perundurai, Kangayam and Pollachi on a salient position commanding a view of the country on three sides A cool equable salubrious climate, protected from the fierce winds during the south-west monsoon, position on the highway between the east and the west and between the hills and the plains which have been responsible for the radiating roads and the railways, location on the border of an important cotton-growing area, the industries, the colleges, and the administrative offices, have all contributed to the rapid growth of Coimbatore, which according to the Census of 1921 is the fifth town in the Presidency.

In conclusion, we find here as elsewhere certain important principles of urban growth and communication-lines illustrated; e. g. location on rivers or at their confluence or where roads cross them, location between highways connecting productive regions, or between highland and lowland, or on railway-line, or in cotton or pastoral areas. But what is remarkable and peculiar to the district appears to be the very large number of nodal towns at the intersection of a number of roads, due as has been pointed out above to the key position of the district and the funnel shape of the plain region.

A Note on the Urban Geography of Coimbatore and its Environs

By R. Dann, Director of Town-Planning.

Coimbatore is one of the larger towns in the Presidency according to population in spite of the fact there appears to be no adequate topographical or physical reason for its location. It is not situated on a river or on a natural trade-route of importance, It is not even a railway junction. It has no large shandy or festivals, no temple of supreme importance or other noted buildings or archaelogical relics. It has an indequate rainfall, is poorly furnished with trees. Its water-supply is naturally poor, but this defect will shortly be remedied.

On the other hand, it has one of the most equable climates in the Presidency with a very mild hot weather and it is well situated with respect to access to Hill Stations. It is also on the border of a large cotton growing area. These three facts are, I think, the secret of its growth; for they have no doubt influenced the establishment of industrial concerns and Government institutions in or near the town, so that to-day it is one, if not the largest, of the industrial centres in the Presidency and has more than a normal share of Colleges &c.

The growth of the population has been persistent and during the last 50 years has increased from 35,274 to 65,788. During the same period the number of houses has increased (from 4,735 to 10,505) much more rapidly than the increase in population, indicating the gradual improvement in housing conditions, though even now in this respect great congestion is indicated, there being on the average 6·3 persons per house. From the surface utilisation survey taken last year in connection with the Civic Survey of the town now in preparation, a very large increase in the number of houses is shewn viz., 10.505 to 13,885. If population increased at the same rate during the period, the 1931 Census would approach 85,000; but this figure will not be reached if the progressive improvement in accommodation has been maintained. I may add that from personal experience of all the large towns of the Presidency, Coimbatore

shows signs of growth almost if not quite unequalled in any other town.

The town appears to have been originally laid out on the usual gridiron or rectangular pattern of Indian towns, but its later growths have been irregular and uncontrolled whilst the rectangular spaces between the original roads have become congested labyrinths of narrow lanes. To-day largely owing to the enthusiasm of the present Chairman, the extensions of the town are being controlled under Town-Planning schemes, whilst a considerable number of improvement schemes for the congested parts of the town have been prepared and some of them carried out.

The extension of the town has been mainly towards the north and east, extension to the south and west being prevented by tanks and wet land.

The main industrial developments are connected with the cotton industry, the ginning and spinning and weaving mills being situated near the railway station and along the Satyamangalam, Avanashi and Trichinopoly roads which lead out to the cotton growing areas.

The railway station is most inadequate for a town of the importance of Coimbatore, but the S. I. Ry. Co. is only waiting the end of the present financial stringency to rebuild and remodel the station and extend the metre guage line from Pollachi and Podanur. With this railway extension complete, with cheap power from Pykara and with an adequate water-supply and drainage system, all of which should materialise within the next few years, the future of Coimbatore as an Industrial, Commercial, Educational and Residential town is promising, and the expansion of the past may be expected to continue.

Public Health of Coimbatore District in relation to Environment

By Major A. M. V. Hesterlow, I. M. S.

The Coimbatore District for public health purposes may be divided into two regions, the hilly or mountainous region in the north and along the western boundary with an outlier in the south-west and the reg n of the plains. The hills are the continuation of the southern ..rt of the Mysore Plateau, the termination of the Eastern Gh ts and the foot hills of the Nilgiris and the Anaimalais in the S .. The Palghat gap gives access to the District of Malabar ; and the railway from Madras to the West Coast divides the plains roughly into two almost equal areas, one north and another south of it. The rivers run to the east and derive their supply of water from the north-east monsoon except the Cauvery and the Bhavani which, rising in the Mysore plateau and the Western Ghats, get their main supply from the south-west monsoon the main monsoon in these regions. Owing to its distance from the east coast and the protection of the Western Ghats, the district is generally dry, the climate moderate and the heat of the plains is very much moderated by the cool air currents from the west coast through the Palghat gap ; the dryness is also to a certain extent modified during the time of the South-West monsoon, when moisture-laden air rushes over the plains, increasing the humidity.

The communications in the district apart from the railway consist of two main roads running into the district from the east at Bhavani, one going directly on to the west coast, the other to the Nilgiris and branching off northward into Mysore. The northern parts of the district are in very poor communication with the rest of the district, even as re s the road through Avanashi and Satyamangalam to C marajanagar in Mysore. In fact, the northern hilly region of the district is in more direct and frequent communication with Mysore than with the rest of the district. In the south-east part of the district, there is more frequent communication with Palni Taluk than with the rest of the District. The coming of the railway to Pollachi and its imminent further extension *eastward* is already having an effect in diverting to the west traffic that used to go east or north. Other communications of

importance are the feeder roads from the cotton and ground-nut growing districts in the south and the tea estates in the Anaimalais to the nearest points on the railway. These facts are of importance, as it has been found that the distribution and spread of epidemic disease is much influenced by these streams of traffic.

For Public Health administrative purposes the Coimbatore District is divided into 13 ranges, excluding the Municipalities which have their own sanitary administration under the Municipal Councils. There is a Health Inspector in charge of each range; and he has a full complement of vaccinators and other health staff. The Health Inspector by constant touring in the range keeps himself informed of the health conditions in the villages of the range. The Village Munsiffs are required to keep the vital statistics of the villages and to inform the Health Inspector as well as the taluk offices immediately of the occurrence of any epidemic disease. In this way prompt and accurate information is collected, recorded, and transmitted to the Health Authorities. Supervising the work of the Health Inspectors is the District Health Officer, whom the Health Inspectors keep informed of all occurrences of epidemic disease. The District Health Officer also gets similar information from the revenue authorities, from the Health Officers of the Municipalities, from Municipal Councils and from Medical Officers throughout the District. The District Health Officer in his tours inspects the action taken in the various circumstances, checks vital statistics and vaccinations, and initiates action where necessary. Included in these duties of the health staff is a constant check on fairs and festivals held in the district, as these have been found to be very important sources of infection and of the spread of epidemic diseases.

As regards its population the district can be included with the districts having the largest population in the presidency, coming next to Madura and Malabar, and in the same class as Salem, South Arcot, North Arcot, Tanjore and Nellore. The birth rate and death rate are moderate being 34·71 and 20·03 in 1928. These do not call for any special remark, except to state that the district is one of the group of districts where there is one maximum during the year (the other group having two maxima).

The larger number of deaths takes place in the colder months of the year, *i.e.*, roughly during the north-east monsoon which is

the chief monsoon. The effect of the south-west monsoon is seen in an early gradual rise of the mortality curve shortly after the onset of the monsoon, possibly attributable to the time taken for the rains in the hills to flow down into the plains and due to the consequent onset of cholera.

Coimbatore, compared with other districts of the Madras Presidency, has a very good record of Public Health, although the same cannot be said of limited localities in the district. As a general statement it may be considered true that there are no endemic centres of epidemic diseases, i. e., places in the district where conditions and environment are always so favourable to the growth of the causal agent of epidemic diseases that these diseases are always prevalent in such places. The record for the district has been uniformly so good that no mention of the district is to be found in the annual Public Health Reports, except casually in not more than about half a dozen instances during the past 30 years.

Cholera. This is the disease to meet which the present Public Health Organisation in the Presidency evolved. For this reason and for its dramatic appearance and progress and tragic results, it is always given the first place in all reports on Public Health. I cannot do better than follow precedent. It has been proved that cholera is dependent on monsoon conditions and that the extent of the epidemic is dependent on the intensity of the monsoon. This is well illustrated in this district. The greatest mortality from cholera is during the period covered by the north-east monsoon and the peak of the mortality curve is due to the prevalence of cholera. There have been great fluctuations in the death rates from cholera due to fluctuations in the monsoons. There are other factors however which affect the incidence of cholera; and these are also illustrated in the district. Pilgrim centres, fairs, and festivals in Coimbatore are just as liable to cause epidemics as in other places and they have done so. For example, the festival at Karamadai (between Coimbatore and Mettupalayam) has been repeatedly responsible for very severe outbreaks of Cholera at the festival time, the epidemic often spreading to a considerable extent in the district. Recently however the spread of the epidemic has been more or less limited to the surrounding villages; and still more recently the outbreak is not looked on as inevitable, and the festival has lost its

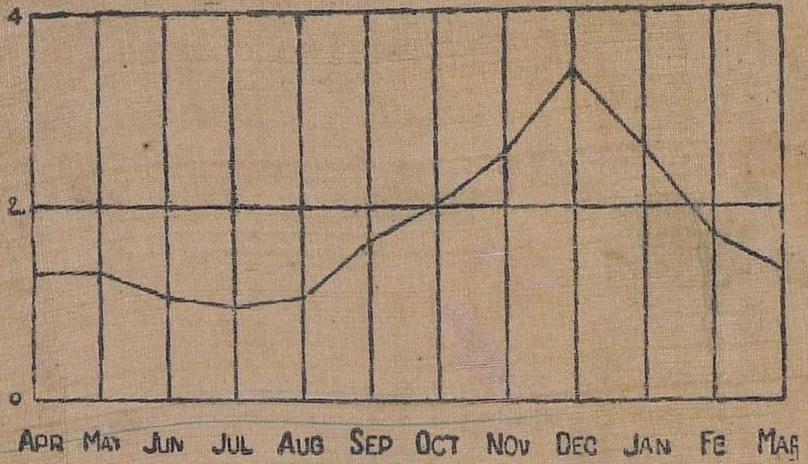

Fig. 21.—Chart showing the Death Rate of Cholera in Coimbatore Dt. Monthly Mean 1886 to 1925.

terrors for the public health official. Cholera from this cause is also commonly found in Kollegal Taluk in the Mahadeswaran Hill ; but these outbreaks as a rule remain limited to the locality on these occasions, thanks to the poor communications between Kollegal and the rest of the district. The cholera in Avanashi and its neighbourhood is also due to and more or less limited to the occasion of the car festival in that town. Another outbreak of cholera in Dharapuram Taluk, especially the eastern limits is due to importations from the Palni festivals in the adjoining district of Madura. Water-borne cholera is said to be the cause of epidemics in Erode and Bhavani. These two taluks and Dharapuram are the taluks that are most commonly and most heavily affected. In the plains south of the railway are large areas under the cultivation of ground-nut; and in these regions cholera occurs without reference to monsoon or festival or water. The cholera is here a hot weather outbreak, and is attributed to scarcity of water, leading to the consumption of water from unwholesome sources and to the inordinate consumption of ground-nuts by labourers engaged in the harvesting of the crop. Extension of this outbreak appear in Pollachi and may spread further to Coimbatore taluk, the trend being in this direction rather than directly northwards to the Railway or westwards.

Smali Pox is more or less prevalent throughout the district and as it is dependent on the vaccination and re-vaccination state of the population, climatic or local conditions do not have much effect on it. The hot weather does seem to exercise some influence on the incidence of this disease, but not much effect of this influence is seen in the case of small-pox in this district as it can scarcely be classed as a hot one. There is a slightly greater amount of small-pox in the hill tracts, due rather to the difficulties of vaccination than to climatic or local conditions.

Plague is a disease from which Coimbatore has suffered much but even here not so much as the neighbouring districts. The disease is chiefly in the hill tracts; and in Kollegal and Gobichettipalayam taluks the disease is an extension of epidemics in Mysore. It is also to be found in Avanashi and Coimbatore Taluks, where it is an extension of epidemics in the Nilgiris and Malabar. Plague is also found in Pollachi and the Anamalai Hills.

In the days when plague was a widespread epidemic in India and Madras Presidency, it was found in all the important towns and trade centres, and more or less widespread in all parts of the district, but most common and fatal in the hill tracts. Further it was also found to be most common and fatal during the second half of the year, when under the influence of the rains the temperature fell and the humidity rose to conditions favourable for the development of the plague germ, for the breeding of fleas and for the multiplication of rats, the last being further helped by the crops being harvested at the time which afforded an abundant food supply for them. Moreover the immigration of labourers for the harvest accentuated the crowding together of people indoors on account of rain and cold. All these conditions, favourable for the spread of plague are found intensified in the hill tracts, and account for the seasonal and regional incidence of the disease.

Plague has now died down very largely in India and the Presidency; and in the district itself cases are now to be found only in the hilly tracts due to infection from Mysore.

Fevers are very largely represented in Coimbatore and consist chiefly of malaria and occasional epidemics of relapsing fever. The distribution of fevers is like that of plague chiefly in the hilly tracts where the conditions of temperature and moisture and underground water and surface water are particularly favourable. In the valley regions also, where the sub-surface saturation is high and the relative humidity and temperature great, fevers are common.

Such distribution and conditions favourable for the prevalence of fevers are not peculiar to Coimbatore; it is found in practically every district and especially in those districts where the hills come down to the plains, the foot hills being especially dangerous. The plains do not suffer much from indigenous fever and only exceptionally from imported outbreaks of relapsing fever, as the conditions as a rule are too dry.

Generally speaking the unhealthy parts of Coimbatore therefore are the hills and valley regions, and the healthy ports of the district are the dry plains. The area is well-protected from violent outbreaks of epidemic disease (chiefly imported from Mysore) by its dry nature and by the very imperfect communications between the hilly tracts and the plains. In fact, it is said, and many officials find, that it is easier to go to Kollegal and parts

of Gobichettipalayam Taluk by travelling round through Mysore than by direct road.

Before closing we must not forget to mention a most important demonstration of the efficiency of sanitary forethought in preventing disease, that is at present going on in Coimbatore, *viz.*, the Mettur works.

Before the works were started, but after much fighting needless to say, properly thought out sanitary measures were instituted and labour town laid out on approved lines. A separate sanitary area was constituted and municipal powers given for efficient control of the area. As a result of these measures, I think it will be conceded that never, in this Presidency at least to go no farther, have public works of such magnitude been carried out with so little ill effect on the health of the district. Notwithstanding the assembling of such a large labour force in an admittedly unhealthy fever region and so close to such cholera centres as Bhavani and Erode, the danger to the health of Coimbatore district is negligible, as can be gathered from the sickness and mortality rates before and after the beginning of the work; and the amount of sickness among the labourers, especially of the kind of which the public health department takes special note of, epidemic disease, is surprisingly small and certainly very much less than it would have been if no precautions had been taken, as can be demonstrated by comparing this project with others, where precautions were not taken and health was left to chance.

Hints and Comments on the S. S. L. C. (A-Group) Syllabus in Geography.

At long last after a year's delay a *final* syllabus for A-Group Geography has been published; and it is pleasing to note that it has been generally well received, though not because of its superiority over the first syllabus now scrapped but for its finality, for the uncertainty of an unapproved syllabus was most harassing.

Frankly speaking, there can be no hesitation in saying that the first syllabus was the best; but, people, afraid of the size of the teaching notes in it which they mistook for quantity of matter to the taught, attacked it indiscriminately with the result that a "*compromise*" syllabus has now been issued, which like all compromises is far short of the ideal. I am sure that within half a dozen years, when we get more teachers of Geography who know their subject well, they will themselves find out how meagre and unsatisfactory the present syllabus is and will agitate for raising the standard. Meantime, we shall work it honestly and sincerely, as it has the great merit of having been approved and accepted, remembering the fact that what matters is not the syllabus and all the finest equipment in the world as the man behind it all who is going to work it.

The plan of the present syllabus is simple and graded. The simple Southern Continents are taken up first in a progressive order in the Fourth Form and closed up with the study of an advanced continent like North America. With a knowledge of the geographical facts and principles thus gained in the first year, Eurasia is taken up in the Fifth Form, the year's work being rounded off with a fuller treatment of India as part of the regional work. In the Sixth Form provision is made for a general revision of the Principles of General Geography learnt in all the previous years, and for "*posting up in the legder*" the Regional Geography of the World.

Let us take for the present in this number the work of Form IV for some detailed consideration. It is the distant continents that come in first in a carefully chosen order. No explanation is necessary to show why the Southern Continents are taken first. Not only are their outlines and physical geography simpler, their

human geography too is relatively simple. People in those continents are engaged in the production of raw materials and foodstuffs only, which they exchange for the articles manufactured by the industrial nations of the Northern Continents. It is easier for the pupils to understand the simpler reactions of man to his environment and his simpler conquests of it in the Southern Continents.

Of the three Southern Continents, we start with Australia because its Geography is the simplest. Not only is it the smallest continent, it is *wholly* in the Southern Hemisphere, and a large part of the land is still undeveloped either due to the climate or the paucity of its population. Further, it is more or less in the same latitude as India, so that frequent correlations by way of comparison and contrast are possible with conditions in the Home Country. Australia is practically India upside down, the sea, however, taking the place of the mountainous continental boundary of India. Only three regions are selected in this continent for special study.

Africa is taken next as it stretches symmetrically to about the same distance as India and Australia north and south of the equator and forms roughly a replica of parts of India in the north and of Australia in the south with of course important differences due to other causes. The alternate swing of the sun on either side of the equator with its duplication of climatic and vegetation belts is the most essential feature in the Geography of the Continent. The importance of rivers is greater here than in Australia, but the northern Indian rivers may be compared with them in their usefulness to man. The jealousies of the ruling European nations are in evidence in the Partition of the Continent. The effect of climate is easily traceable in the division of the land into colonies of settlement and colonies of exploitation.

In the Americas a complete north-to-south gore of the world is taken beyond the latitudes of Africa northwards and southwards, so that the regions of Africa are automatically revised while the regions of the higher latitudes are taken up for the first time.

South America does not extend northwards beyond the latitude of Sudan, but in the south it goes far beyond the limits of Africa or Australia, where it contains new types of regions. The relief of the continent is different from that of Africa. While the desert is more extensive in Africa, the selva is more extensive in South America; and the Andean Region corresponds to the White High-

lands of Africa. The past Latin connection, the present Italian and German immigration, a large mixed and native population having political equality with the European, the economic importance of the A. B. C. States, the influence of the Monroe Doctrine etc, are some of the leading points for emphasis.

In North America the study of a north-to-south gore of the world, already commenced in South America, is continued and completed. The relief and rivers of this continent, while resembling those of South America, differ at the same time considerably. All the factors influencing climate studied in the earlier continents are gathered up here, and it is a matter of ledger-posting again. The continent is divided into natural regions which complete the types learnt already in the Southern Continents. Their duplicates will be found in Eurasia later. It is, however, in its Human Geography that North America differs considerably from the Southern Continents being industrial and more advanced. Adequate emphasis should be laid on the factors contributing to this result.

It is highly necessary that the teacher should have a proper perspective, a clear grasp of essentials; and then he will not complain of the syllabus being heavy or difficult. The pupils should not be stuffed with unnecessary and irrelevant facts; nor should all facts be taught to the same uniform depth. There is such a thing as a relative importance of topics and facts; and the emphasis should be on those that are fundamental, characteristic and typical. Further, the method of treatment is at least as important as the matter.

A common complaint that is often raised is that it is not possible to cover the ground within the available time, forgetting the truth of the statement that the coat has to be cut according to the cloth. At the rate of two periods per week, the normal time alloted for the subject, it is easily possible to get not less than 50 periods for the year, making full allowance for rain holidays, match holidays etc. Let us cut up the syllabus into lessons and see what it works at.

For Australia 8 lessons will do as follows:—1 for relief and rivers, 2 for climate, 1 for vegetation and animals, 3 for the human geography of the three regions selected, and 1 for position and its commercial importance.

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For Africa 12 lessons are suggested as follows :—2 on structure, relief and rivers, 2 on climate, 1 on vegetation belts and division into natural regions, 1 on peoples, 1 on trade routes of the Indian Ocean, and 5 lessons on the human geography of particular regions.

For South America 10 lessons may be given as follows :—2 on structure, relief and rivers, 2 on climate and vegetation, 2 on people, states, historical importance of minerals etc., and 4 for the human geography of particular regions.

For North America 18 lessons are suggested, and the distribution will be as follows :—3 for structure, relief and rivers, 3 for climate and vegetation, 1 for population, political divisions and immigration, 1 for transport and communications, and 10 for the human geography of the particular regions indicated.

This gives us a total of 48 lessons for the year, which is well within easy possibility, provided the eye is kept on fundamentals and perspective and the right method is followed.

The topics are to be learnt by map-reading under the guidance of the teacher, and the facts filled in the pupils' outline maps with additional points noted on the margin or as foot-note ; and after understanding the facts in this way, their explanations are to be obtained by correlations of appropriate maps. Instead of involving a strain on the part of the teacher, as it is commonly feared, this method really lightens his burden; only it requires some skill and forethought. It is interesting to the boys, efficient in results and economical in time.

In the next number of the Journal the fifth form portion of the syllabus will be taken up for similar consideration.

N. SUBRAHMANYAM, M.A., L.T.

New and Notes.

It was ardently expected that with the commencement of the new academic year the sanctioned scheme of a Department of Geography to run the Diploma Course in the first instance would be given effect to by the Syndicate of the Madras University. But for some reason or other it has not been done with the result that the provision of qualified teachers of Geograpy for the Intermediate Course has been still further delayed. So far Queen Mary's has been the only College having the subject; and none of the men's colleges could provide for it for want of the qualified teacher. It is hoped that the University will take early steps to arrange to start the scheme at least by July 1931.

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Meantime, the re-organised S. S. L. C. Scheme, which has given a footing for Geography in the higher classes of the High School, has necessitated the urgent training of the actual teacher of the subject. We congratulate the District Boards of Malabar and Nellore, which realised the urgency of the need and arranged to conduct two short Refresher Courses in Geography during Michaelmas last for the benefit of the teachers in Board service as well as for others. Will other District Boards wake up to their responsibility in this respect?

* * * *

The First Conference of the Association, which was held at very short notice at Coimbatore during May last, has been quite a success. The President of the Conference, M. R. Ry. Rao Saheb T. S. Subramania Ayyar delivered a very inspiring address on the development and importance of Modern Geography. Fourteen papers on the Coimbatore Region, which were read at the Conference, have been gathered together in this issue of the Journal, which has been brought out as a special Conference Double Number. It is hoped that subscribers and members will not mind the delay in publishing it, which has been unavoidable.

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It has been decided to hold the Second Conference of the Association at Palghat during May next, when studies of Malabar Region from various points of view will be read. Members and others who intend to read any paper for the coming Confer-

ence are requested to inform the Secretary of the Association about it in time. Besides a Local Branch at Palghat, a strong District Branch has been formed for Malabar; and owing to the longer interval of time available for arrangements, the next Conference is expected to be a greater success.

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New Local Branches of the Association have been formed this year at Coimbatore, Erode, Bangalore, Nellore and Palghat. The Rules for the conduct of the District and Local Branches, as passed by the Working Council of the Association, are printed elsewhere in this number.

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Herr Hermann Kolb, the great German traveller, delivered under the auspices of the Association two lantern lectures on the 4th and 19th August 1930. The first was on his *Travel through Turkey, Iraq and Persia*: and the second was on *the Human Geography of Finland, Lapland, Sweden and Norway*.

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The Educational Moving Pictures Co., Limited, (No. 11 Edward Elliott's Road, Mylapore, Madras) provides for schools and colleges new facilities for visual instruction at a very cheap rate. Their speciality is to give shows of educational films of geographic, scientific and literary value; and their inaugural show was given at the Teachers' College, Saidapet on the 5th September 1930 under the auspices of the Association. Mr. A. Rama Rao, Principal of the College, presided on the occasion, when the Panama Canal, Water Power, and the Deserts of the World were exhibited.

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The time was when tracing of maps was taboo, and that was under the regime of Old Geography. Now-a-days, however, when map-filling is part of the right method of learning the subject, Mapographs, Kylographs and such other costly appliances for stamping outlines of countries and continents have come into vogue. But rubber stamps of countries and continents are available at a nominal price of a rupee or two from Mr. Bh. Krishna Rao, District Scout Organiser, Narasapur (West Godavery). It is very pleasing to note that this member of the Association gets the work done by scouts as a scout handicraft.

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A meeting of the Association was held at the Presidency College on the 28th October, 1930 with Mr. G. G. Armstrong, Chairman of the Madras Port Trust, in the chair, when Mr. *H. T. Hudson*, Captain of S. S. Manora delivered before a very large gathering an interesting address on "*With Shackleton: 1914-16*". His speech will be published in the next number of the Journal.

Books and Journals received.

The South Indian Teacher: May to October 1930.

The Indian Educator: Vol. VI, April to October 1930.

The Geographical Journal: May to September 1930.

The Educational Review: May to Ocotber 1930.

Geography: June 1930.

Wealth and Welfare: Vol. VI, Nos. 21 to 38 (June to October 1930)

Mitteilungen der Geographischen Gesellschaft in Hamburg: Bd. XLI 1930.

The Geographical Review (of New York): July 1930.

Journal of the Andhra Historical Research Society: Vol. III and Vol. IV, Parts 1 & 2,

Our Home Magazine: July 1930.

Quarterly Journal of the Mythic Society July 1930.

Rural India: July 1930.

Journal of the Travancore Teachers' Association: September 1930.

Digest of Agricultural Operations for Quarter ending 31st March 1930 of the Madras Agricultural Department.

" " " 30th June 1930.

Madras Agricultural Department Year Book for 1930.

Report of the Madras Industries Department for the year ending 31st March 1930.

A Chapter in the History of Kongu Nadu: C. M. Ramachandra Chettiar.

Madras City: (Tamil): C. S. Srinivasachari (Oxford University Press).

Madura District (Tamil): M. S. Ramaswami Ayyangar (Oxford University Press)

The Taj Mahal Atlas: (Longmans Green & Co.)

Rules concerning Lo al and District Branches of the Madras Geographical Association.

The objects of the mofussil branches shall be to increase the activities of the Association by enabling mofussil members to make original studies of their own neighbourhood from various points of view and by arranging discussions, excursions and exhibitions in accordance with rules 2 and 3 of the Associat'on. Provision will be made for the reading of papers of mofussil members at the ordinary meetings of the Association or at the annual conference. Branches are expected to increase the membership of the Association and of Geography in every way.

1. The working council can constitute a Local Branch of the Madras Geographical Association in any locality which has not less than six members on an application made by them.

2. The members of the Branch so constituted shall elect from among themselves a local secretary who will conduct the business of the Branch.

3. The local secretary shall collect and remit the subscription of members in his locality from time to time, and receive and distribute or circulate reports, leaflets, circulars, etc., to the members of the branch.

4. Of membership subscriptions collected from the members of the branch 25 per cent will be allotted for its contingent expenses.

5. The local secretary shall keep a regular account of receipts and expenses which he shall submit every quarter to the Secretary of the Association.

6. A ar copy of the Journal of the Association shall be sent
to each loc br
7. Al tions received by the local secretary shall be
added to ch library.
ocal secretary shall be in charge of the local library
e to lend the journals, books etc., to the members.
and arrang hen a membership in a local branch falls below six at
9. W local secretary shall try to enlist new members and
any time the e minimum number within three months. Otherwise
make up th h shall be dissolved and its collection of Journals etc., as
the bran the balance of funds shall be taken over by the Asso-
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10. The local secretaries can get any book or Journals from the library of the Association for the use of the members of the branch for a limited period. The expenses of carriage to and fro shall be met by the branch or individual members concerned according as the books etc., are needed for the general use of the members or for particular members as the case may be.

11. Local secretaries shall send quarterly reports of the activities of their branches for publication in the Journal from time to tim and for incorporation in the Annual Report.

12. The Working Council can constitute a District Branch in a District or a Native State provided there is at least one local branch in the area and provided also there is a minimum of 20 members in the District or State.

13. The members of the branch shall elect from among themselves by correspondence or otherwise a President and a Secretary to carry on the business of the District Branch.

14. The time of election and the person by whom it is to be conducted shall be decided by the Secretary of the Association.

15. The head quarters of the District Branch shall be fixed by the Working Council of the Association.

16. Of membership subscriptions collected from the members of the District Branch 25% will be allotted for its contingent expenses.

17. The District Secretary shall keep an account of receipts and expenses which he shall submit every quarter to the secretary of the Association.

18. District Secretaries shall send quarterly reports of the activities of their branches for publication the Jo... from time to time and for incorporation in the A... ...ort of the Association.

19. When the membership of the District Br... ...lls below 20 at any time the District secretary shall try to enlis... ...embers and make up the minimum number within 3 mont... ...s. Other- wise the branch shall be dissolved and its balance of ... funds shall be taken over by the Association.

20. Annual conferences of the Association shall, o... ...dinarily be held on the invitation of the District Branches, the invitin... ...acting as Reception Committee of the Conference.

Kesari Printing Works, Madras.

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